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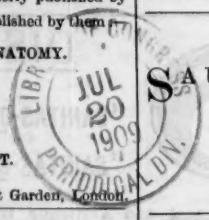

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# A Lecture
ON
# A CASE OF UNILATERAL OPTIC NEURITIS FROM INTRACRANIAL TUMOUR.

*Delivered at University College Hospital*

BY SIR WILLIAM R. GOWERS, M.D. LOND., F.R.S.,

CONSULTING PHYSICIAN TO THE HOSPITAL.

GENTLEMEN,—In the clinical lecture that I have been asked to give you to-day I propose to consider a case of intracranial tumour that was under my care four months ago at the Queen-square Hospital. Cases of this character often teach us many lessons and not rarely present us with many surprises. They are often incompatible with life, and sometimes also with an attempt to preserve life by their removal. Then their secrets are revealed. "Nec silet mors" was the apt motto of the old Pathological Society, and the story which Death reveals is of unvaried veracity, limited to us only by our power to read it. When a case has been carefully observed, and we are able thus to look at it before and after, at its symptoms during life, and afterwards at the mechanism by which they arose, we may learn much. This is especially the case when a patient, as in the case I am about to describe, presented symptoms of an unusual character. There was the common effect and symptom of an intracranial growth, optic neuritis, but it was confined to one eye. This is a very rare event. I have seen it, but only in cases which differed from this one by recovering, and their nature was therefore uncertain.

The patient was a single woman, 37 years of age, who was admitted on Sept. 14th, 1908. In her family there was no history of tubercle, of epilepsy or insanity, and nothing in her history or symptoms suggested the probability of syphilis. The chief intracranial symptom she had had was headache, which began to trouble her between two and three years ago. Two years ago, in October, 1906, she found also that she was more easily fatigued and that her headache was increasing. One day, after a rather long walk, she fainted, and remained unconscious for two hours, but without any convulsions; then she vomited for 12 hours. She had no other similar attack and never any convulsive seizure. We have learned, however, that all her life she was liable to faint on any slight cause, such, for instance, as a trifling injury. This tendency probably explains the prolonged faint. It is always important to inquire for any habitual tendency in such a case. It may explain a symptom which would otherwise possess a greater significance.

During the following year the headache continued and often led to nausea and vomiting. The pain a year ago (October, 1907) was felt by night as well as by day. It waked her almost every night and kept her awake. It was felt at the vertex and right parietal region, often also at the occiput, and as a dragging pain at the back of the neck. Last June she found the sight of the left eye was getting bad and the pain in the head often seemed to pass to the right eye, in which were occasional paroxysms of dimness of sight. In July the left arm seemed getting weak, and a little later the left leg also. In August she was seen by an ophthalmic surgeon in Glasgow, who recommended her to come to the Queen-square Hospital.

Thus the symptoms, until the last two or three months, had been the "general" symptoms of an intracranial tumour. Of these the headache and vomiting were the most important. But headache has many other causes. Even that which is continuous may develop from that which was previously paroxysmal. We see this sometimes in cases of migraine. But then the continuous headache does not persist during the night. The fact that in this patient the headache so often disturbed sleep showed its grave character and suggested an organic cause. Always remember to ask a patient who complains of continuous headache whether it interferes with sleep. Although this is the most common effect of a tumour, it is sometimes absent. Indeed, the most characteristic symptoms of any disease now and then do not occur. The vomiting which often accompanied the headache also added to its gravity as significant of an organic cause. It seldom attends continuous pain in the head due to any functional nature, although it is so common in the paroxysmal migraine. When this ceases to be occasional and is replaced by a constant headache the vomiting as a rule ceases. You are sometimes told that nausea does not accompany cerebral vomiting, but this is a mistake. It is much more often present than absent and adds much to the patient's misery.

On admission we found the patient healthy in aspect and well nourished. Her mental state was clear and normal, but she was suffering severely from the pain in the head. Whenever headache suggests that a tumour may exist, one of the first steps should be to examine the optic discs. The existence of optic neuritis with such headache practically proves that there is an intracranial tumour. We found it, but in one eye only, the right. The left disc was not inflamed, and we could feel sure from its appearance that it never had been. I will return to the eyes directly. She could smell well on the right side but not at all on the left. The sense of smell often escapes observation, but its examination is of great importance in all cases of intracranial disease. It is often impaired, and its loss may be significant, as we shall see that it was in this case. Movement of the eyes was quite normal, and there was no nystagmus. The face, masseters, and tongue were unaffected; indeed, the functions of all the other cranial nerves—besides the first two—were normal.

The left arm was weaker than the right, as it usually is, but the difference was greater than usual. The right grasp was 30 K°, the left only 18. The left leg was also a little weak, but the difference between the legs was less than that between the arms, as we might expect. The left wrist-jerk was greater than the right, and so was the knee-jerk, but there was no foot-clonus. The plantar reflexes were both flexor, but the left was less easily elicited than the right. This was true also of the abdominal reflex. Thus the superficial reflexes were diminished, the "deep" reflexes were increased. That is the general rule when there is some interference with the pyramidal tracts on one side, causing a slight degree of degeneration. But it is noteworthy that the plantar reflex was only altered in degree. The form of the movement was not changed to extension instead of flexion of the great toe, the "Babinski sign," as it is termed. This occurs in the majority of cases with degeneration of the pyramidal tract, and is commonly an early effect, but is not invariable. It is an inconstant symptom, however carefully the examination is made, and whether the degeneration is due to spinal disease or to cerebral lesion; we do not know why it varies. It should therefore be regarded as a confirmatory symptom. It is exists its presence is valuable; but if it is absent, if the plantar reflex in the great toe is clearly flexor, no inference can be drawn as to the absence of the disease which commonly causes an extensor response. A distinct diminution in the superficial reflexes, such as we had here, may always be allowed weight. I remember a case that was in the hospital many years ago, a case of malignant disease in the abdomen, in which this was, for two or three weeks, absolutely the only symptom of a secondary growth on the right hemisphere. There was a marked diminution of the superficial reflexes on the left side, and later the evidence of a secondary growth in the right hemisphere became distinct.

Let us return to the eyes. The pupils acted to light on each side, but on the left the action was not sustained; the contraction was immediately followed by dilatation. The right optic disc was completely hidden beneath a prominent swelling which occupied its position, finely striated, redder in the centre than on the sides, down which the vessels sloped. A few lines of very fine dots were seen in the retina beyond the swelling, coursing towards the macula. One or two very minute hæmorrhages were once seen, but they soon disappeared and were not renewed. The veins were not greatly distended. The height of the swelling was found by Mr. Marcus Gunn to be 7 diopters, but 2½ of these were due to hypermetropia, so that the inflamed papilla was scarcely 5 diopters in height, about 1½ millimetres. The field of this eye presented little restriction, and she could read 6/6, the acuity being Jäger 2. It was apparently a neuritis of moderate intensity with little tendency to pass into the stage of "choked disc"; it was a form common in intracranial tumours of slow rate of growth.

A striking contrast to the aspect of the right eye was

presented by the left. There was no trace of neuritis present or past, the disc and cup were sharp and clear, the larger vessels of nearly normal size, and the disc presented a greyish rather than a rosy tint, as if atrophy were commencing. A small central scotoma existed for both white and colours, absolute up to 10°. Very dim vision existed round it up to about 30°. With this eye the patient could make out none of Jäger's test-types. Thus the condition was that with which we are familiar in retro-ocular neuritis. Could the papillitis in the right eye be the result of similar inflammation? We know that when the neuritis is near the eye it may become visible at the disc, but it never attains such a degree as was here present. There was also the loss of smell on the left side to receive weight. We had, therefore, to conclude that there was a growth in the front of the base of the brain, exerting pressure on the left side, damaging the olfactory and optic nerves, while on the right side, in which it had produced the optic neuritis, it had pressed apparently backwards, on to the hemispheres, so as to interfere slightly with the motor path for the left limbs.

During the next three weeks there was no material change in the symptoms, except that smell became almost lost on the right side, as it was before lost on the left. The optic neuritis remained the same. The patient became liable to attacks of increasing subjective sense of fatigue, and to an occasional sense of want of breath, without altered frequency of breathing, although there was a bluish tint on the face; these attacks were much relieved by inhalations of oxygen.

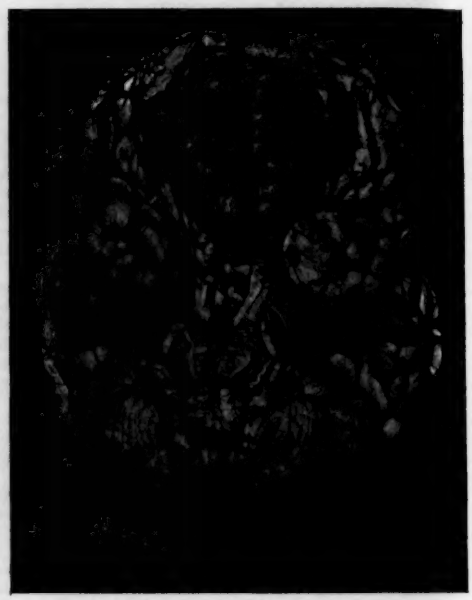
The case was clearly one in which the only chance, and that a slender one, was an attempt to remove the tumour. Accordingly the first stage of loosening of the bone was performed by Sir Victor Horsley on Oct. 13th. The evidence that the growth extended on each side compelled a bilateral operation. A trephine opening was made behind each temple, and, the skin having been raised, these openings were connected by a saw cut across the frontal bone, which was then loosened by raising it, and was replaced, pending the second stage. But, at the end, the patient was pulseless, and did not regain consciousness until an injection of saline solution was given, when perfect consciousness returned. But the pulse could not be felt, and at the end of two hours she ceased to breathe.

I am glad to be able to offer you the opportunity of inspecting the brain, and the tumour which caused the symptoms I have described. The brain is turned over and the tumour, which now lies on the top of the frontal lobes, really lay between their under surface and the orbital plates. It is a flattened growth, almost medial in position, and extending to each side, as you see. It occupied a depression in the under surface of the frontal lobes, corresponding to it in size. The growth is 2⅝ inches from side to side, 2½ from before back, and 1⅛ in thickness, which is almost the same in each half. The transverse circumference is about 7 inches. It is smooth in outline but slightly nodulated on the surface, nowhere attached to the brain, but firmly adherent on its under surface in the middle line, where it had apparently sprung from the dura mater over the crista galli, needing a knife for its separation. Its structure is that of an indurated endothelioma.

I cannot show you the optic nerves, which were removed for microscopical examination. The tumour lay above them, compressing them, and it had pressed back the optic chiasma. The left nerve had evidently suffered more compression than the right. There was no distension of the sheath of the left nerve, but moderate distension of the right sheath, just behind the eyeball. The left optic nerve had evidently sustained longer and greater compression than the right, and from the pressure the left olfactory nerves had almost disappeared, as might be expected from the complete loss of smell on the left side. The tumour seems to extend back a little further on the right side than on the left, and to this we must ascribe the pressure on the motor path which caused the left-sided paresis. No sign can be found, on section, of any growths on the brain.

The increase of the tumour must have been very slow, and we may probably ascribe its origin to some residual developmental tissue of the dura mater, remaining, when it was completed at the middle line, and subsequently taking on a process of growth. Such residual tissue, as we know in the case of embryonal tissue in the spinal cord, may only produce symptoms from its growth when adult life is reached, although some increase may have taken place before, we cannot say how long before. Thus the growth was a meningeal tumour, in a rare situation.

Another case has been lately recorded in which a similar tumour was in the same position and of the same nature. It had sprung from the same spot and had given rise to very similar symptoms, but on opposite sides. It had compressed most of the right optic nerve and caused in it symptoms like those of retro-ocular neuritis, while on the left side there was intra-ocular neuritus, like that of cerebral tumour, precisely as in the right eye in this case. The growth extended farther back into the middle fossa than in this case, and also into one hemisphere with more definite hemiplegic weakness.[1]



Reproduction of photograph of the base of the brain. The tumour is lying in a depression on the under surface of the frontal lobes. The optic commissure and nerves have been removed.

A tumour of this size could not form rapidly within the skull without a great increase of intracranial pressure. But here the growth must have been very slow; it may have lasted almost as long as the patient had a separate existence. The position of the tumour in the depression suggests that its growth for a long time did not exceed that of the brain, which accommodated itself to the presence of the abnormal object. Often it is only when the brain has ceased to grow that the increasing size of a tumour begins to cause symptoms of its presence, sooner or later, according to the rate of its growth, and the responsive nature of the parts with which it is in contact, which will suffer from its gradual increase in size.

Meningeal tumours have always a much slighter tendency to cause optic neuritis than those that grow in the cerebral substance. I remember very well a case that I saw long ago, which impressed this fact on my mind. It was in my early days and also in the early days of medical ophthalmoscopy. The case had been in the hospital, and I watched it afterwards, and when the end came, I made a post-mortem examination. The patient was a woman, about 50 years of age, and she had a very large intracranial tumour. It was of the size of a man's fist, and sprang from the dura mater. It occupied a vast depression in the left parietal region, but the brain was only compressed; the pia mater was nowhere penetrated by the growth. The optic discs were normal to the end of her life. I saw them a few days before her death, and I remember well an incident

[1] Schultz-Zehden: Klinisches Monatsblatt für Augenheilkunde, 1905, p. 153.

which impressed the fact on my mind. She lay in bed, with her head by the side of a window, in an attic in the South of London, and through the window and on to her bed the sunshine was streaming. I suddenly thought I should save much trouble if I used the sunshine with which to make the ophthalmoscopic examination. I had often before used a sunlighted cloud for the purpose; this time I used the sun's rays and obtained an excellent view of the quite normal disc, with the peculiar true tints the sunlight gives. But I had afterwards a grave misgiving lest the concentrated sunshine might have blistered the retina, a misgiving I have never forgotten. I do not think it was groundless. The retina is a delicate structure, and its functional power might be ruined for ever by the concentrated rays of the sun. I do not indeed know that I did harm, for her death occurred within a week, but I should not advise you to repeat the experiment. With the rays reflected from a white cloud there is no risk. The difference in tint of the fundus and discs and vessels is surprising, and shows us how artificial are the colours we obtain even with an electric light. No doubt the tumour, in the case I have mentioned, had been growing for many years, and the space it occupied was no direct criterion of the pressure it had exerted.

This is a fact which we have to estimate in every case of intracranial growth, for one reason because it has acquired great practical importance in relation to optic neuritis. It is maintained by Sir Victor Horsley that increased intracranial pressure is the chief mechanism in the production of such neuritis. He found, and has abundantly proved by experience, that when the pressure is relieved by trephining, whether or not a tumour is removed, the neuritis begins to subside—sometimes quickly, sometimes slowly, sometimes very slowly. The fact is of great practical importance, because it justifies the operation for the relief of pressure even if the symptoms make it unlikely that the removal of the tumour is possible. I do not think it justifies the inference that the intracranial pressure is the cause of the neuritis. We find neuritis in cases in which it is difficult to conceive that the pressure has been increased, and we find it absent in cases in which the increase must have been considerable. But I think we cannot doubt that it is the chief factor in intensifying neuritis and raising it to a degree which inevitably, if left alone, will lead to loss of sight. The case we have been considering throws no light on the question of the mechanism of neuritis. It might be maintained that the presence of so large a mass within the skull must have caused such an increase of pressure that, as there was only very slight neuritis, this cannot be regarded as its cause, and the case is opposed to the opinion I have referred to. But when the pathological evidence is carefully considered it seems doubtful whether any injurious pressure had been exerted until recent years, none while the brain and the meningeal tumour were growing together equally, and accommodating themselves to the space they had to develop in, and that only when the normal structure of the skull had attained full size, the slowly increasing tumour began to affect injuriously adjacent parts, to interfere with the position of the left optic nerve, and to cause optic neuritis in the right. Even these effects were long delayed.

The compression of the left optic nerve by the growth was much greater than that of the right. It occurred at the very short piece of the nerve in front of the chiasma, before the nerve passes through the optic foramen on its entrance into the orbit. This was, indeed, longer than usual in consequence of the displacement of the chiasma backwards by the growth. To this greater and earlier constriction of the left nerve must be ascribed the absence of optic neuritis in the left eye and the fact that the symptoms in it were precisely those of retro-ocular neuritis, a central scotoma in the field of vision, and slight signs of atrophy of the disc. The physiological cup and margin of the disc were perfectly clear, but the rosy tint it should present was less than normal and replaced by a definite grey tint.

Why retro-ocular neuritis, an inflammation of the nerve behind the eyeball, usually far behind, causes this loss of function in the central part of the retina, at and just around the yellow spot, we do not surely know. In such cases there is commonly only found near the eyeball a degeneration of fibres lying in a wedge-shaped area, the base at the outer margin of the nerve, the apex near its middle. These seem to be the fibres which proceed from the central part of the retina in the outer side of the optic nerve. They are the most sensitive of all the fibres, subserving the most important function of the retina—that of central vision.

Further backwards in the nerve they are believed to occupy its axis, and thus to pass the chiasma. But a careful microscopical examination of the nerves of this case has been made by Mr. Leslie J. Paton, and he finds in the left, a little in front of the chiasma, a compact fasciculus of degenerated fibres in the outer part of the nerve and none in the axial region. We must assume that these are the central degenerated fibres, and the unusual position reminds us that the observed facts, on which rests our belief in their axial position, are not numerous. We urgently need more pathological evidence of their seat and course, in cases in which a central scotoma existed. The special failure of the central nerves is explained by Mr. Gunn, as a consequence of their high function, which is assumed to involve a corresponding vital instability. Their nutrition is thus assumed to give way, first and most of all the fibres of the nerve, when a morbid influence, pressure or inflammation, acts equally on all the fibres. The case before us seems to support this view, since the macular fibres have suffered from a compression of the nerve that was apparently general.

The microscopical examination of the right nerve throws no light on the agency by which optic neuritis is excited. No definite increase of the nuclei of the nerve or sheath could be discerned. The moderate distension of the sheath behind the eyeball I have already mentioned. This is generally related to an excess of subarachnoid fluid, as was long ago shown, at least in the optic neuritis of tubercular meningitis, by Dr. George Garlick. When there was no excess of the fluid there was similar optic neuritis, but no distension of the sheath. Here, on the left side, the greater compression of the nerve and sheath had apparently prevented this effect.

The chief diagnostic lesson the case has for us is the opposite affection of the two eyes and the manner in which it was brought about. In any case which presents this the condition will probably warrant the same diagnosis, as it did, not only in the case we have considered, but also in that which I quoted to you. You may assume that the optic neuritis produced by an ordinary intracranial tumour is always produced in both eyes. One may suffer a little sooner than the other, but as soon as it is unmistakeable in the eye first affected signs of it can be detected in the other eye. This conclusion has been confirmed by all the cases of monocular neuritis that have come under my observation, including one seeming exception. In this the monocular neuritis from cerebral disease having the symptoms of a tumour was confined to the right eye, but the left was artificial!

A few months ago a lady was brought to me with neuritis confined to the right eye. She was 35 years of age, single, and the neuritis was discovered two years before, the left being then and now quite normal in aspect. The swelling was considerable, 3½ or 4 diopters, and had always presented the same aspect, which was chronic, with no hæmorrhages. Except for moderate headache, general in character, which had existed for two years, there were absolutely no cerebral symptoms to be found on careful examination. The headache was never felt at night. Her heart and urine were also normal. There was a very strong family history of gout and the neuritis may have been idiopathic. We cannot doubt that the gout is an occasional cause of retro-ocular inflammation, and therefore that this diathesis may sometimes cause it within the eye.

This case should be remembered because it conforms to the common rule that when uniocular neuritis is met with, and suggests by its aspect that it might be due to a cerebral tumour, there is generally reason to think that it may be the consequence of some general cause. We have seen that headache which does not disturb sleep cannot be regarded alone as evidence of organic brain disease. In kidney disease we sometimes meet with optic neuritis of considerable degree, although the albuminuric retinal affection is so trifling that it may be easily overlooked. In cases of this nature that I have seen, headache has always been troublesome and persistent. I remember such a case when I was house physician at this hospital; I ventured to diagnose a cerebral tumour on the strength of the optic neuritis and extreme headache, in spite of the presence of much albumin in the urine. But organic renal disease alone

was found, when the doubt was ended by the patient's death. I did not allow the weight I should now allow to the fact that the patient, all through life, had been a sufferer from periodical headaches, apparently migrainous in nature, a fact which often coincides with severe headache from general disease, and should always receive attention.

I may mention another case of optic neuritis in one eye only, which was less mysterious in nature. The patient was a mining engineer, who had been working in coal-mines in which there was much gas. The left eye was perfectly normal. Although the neuritis in the right eye was considerable, just like that met with in cerebral tumour, it was no doubt the manifestation of retro-ocular inflammation, for there were a large central scotoma and an inactive pupil. The masseters were also weak, and the right side of the face. The arms were strong and normal, but the legs were not, and the power of walking was first noticed to be impaired nine weeks before. The knee-jerks were excessive and double foot-clonus was found. A girdle pain troubled him at the level of the umbilicus. Sensation was not altered. The affection of vision had only been discovered six days before he was seen, when he shut the left eye in consequence of his attention being drawn to the right eye by a pricking pain in it and behind it. There had been only slight headache in the right frontal region. He was married and syphilis could be practically excluded. Small doses of iodide (gr. v.) were given with a full dose of strychnia, and he was sent for a change, specially to stop the continued inhalation of mine gas. Five weeks later he had much improved. All headache had ceased; the scotoma had disappeared to a one centimetre object; central vision had returned, at least to a one-eighth inch object; and the neuritis had almost passed away, only some blurring of one edge of the disc remaining. His legs were stronger but the foot-clonus continued. I saw him again after another five weeks, when the right disc was normal and he could read the smallest test-type. His walking was quite good and the girdle pain slighter. He was then obliged to resume his work, but I heard two years afterwards that he continued free from cerebral or ocular symptoms, although his legs were still troublesome.

It is probable that a commencing insular inflammation existed in the right optic nerve, near the eye, and had become visible at the papilla to an unusual degree, and that another islet of the same nature existed in the spinal cord of longer duration and therefore less amenable. The effective element in treatment was probably the withdrawal from the toxic influence of the gas he had previously inhaled certainly for long. It is important to remember how small our knowledge is of the action of gaseous toxic agents received by inhalation, and that also a peculiar susceptibility to them seems sometimes to exist in individuals. I have described strange symptoms resembling those of myasthenia, which could only be ascribed to the inhalation of imperfectly burned products of petrol-combustion, because the symptoms ceased on withdrawal from the habitual exposure but again appeared on renewing it. In this case there was no optic neuritis, and in that which I have just referred to the optic neuritis was probably the result of adjacent retro-ocular inflammation which passed away quickly when exposure to its cause came to an end.

The cases I have mentioned of visible monocular neuritis thus demonstrate the exceptional nature of cases of this character, and they justify the assumption that they are not due to the grave disease which is the common cause of the morbid process in bilateral forms. Rare though these monocular forms are, some of you will doubtless meet, hereafter, with examples, and the facts I have brought to your notice may serve to guide you aright if they remain in memory.

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NORTH-EAST LONDON POST-GRADUATE COLLEGE.—The vacation course of the North-East London Post-Graduate College is to be held this year from Sept. 6th to 18th at the Prince of Wales's General Hospital, Tottenham, N. There will be continuous arrangements for study during the fortnight from 10 A.M. to 6 P.M. each day, which will comprise demonstrations on clinical methods, demonstrations of selected clinical cases, pathological demonstrations, cliniques, and clinical lectures and discussions. The fee for the course is 2 guineas; a syllabus with further information may be obtained from the Dean of the School at the Hospital or at 142, Harley-street, W.

# IONIC MEDICATION IN THE TREATMENT OF SOME OBSTINATE CASES OF PELVIC DISEASE IN WOMEN.[1]

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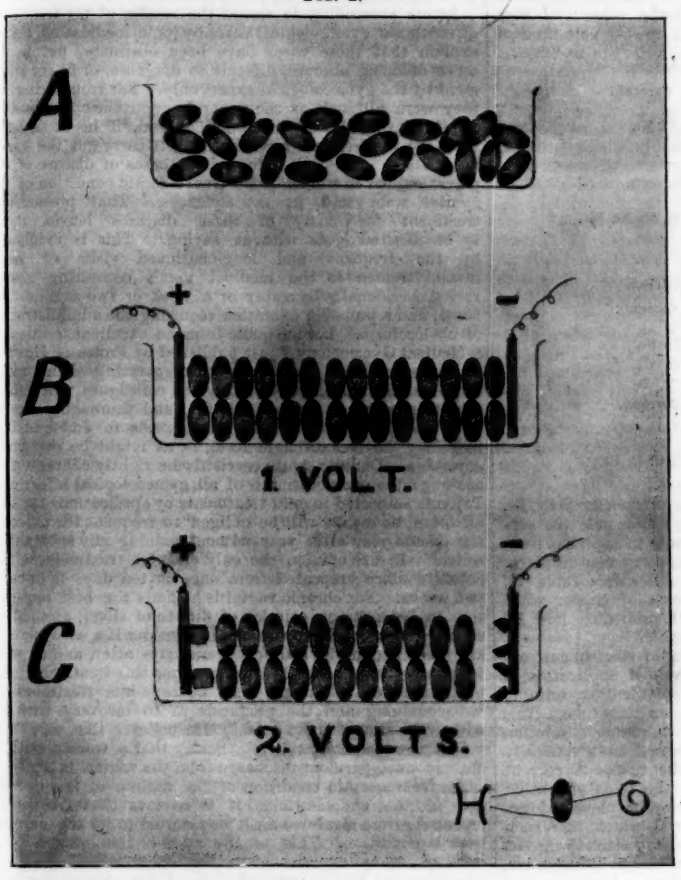
IONIC medication is the application of electro-chemistry to therapeutics. To students of recent advances in physical chemistry chemical affinity comes simply to mean electric attraction and electric repulsion of the atoms or molecules in solution. These atoms or molecules have each a charge of electricity, some of them being positive and some negative. Being electrically charged, and capable of moving in virtue of this charge, they are called ions or movers. Let an electric current be passed through such a solution and at once from a restless state of activity the ions proceed to arrange themselves so that the – ions may move towards the + pole, and the + ions towards the – pole, like charges repelling and unlike attracting. The ions moving towards the + pole are called anions—that is, anode goers; those towards the – pole cations—that is, cathode goers. Hydrogen and all metals are cations; iodine, chlorine, &c., are anions. In the case of compounds the bases are cations and the acids are anions. Thus, in the case of a solution of sulphate of copper the sulphuric acid, being an anion, will drift towards the + pole, whilst the copper will move towards the – pole. Any solution capable of conducting a current of electricity through it is called an electrolyte, and the passage of the current brings about decomposition of the electrolyte. The motions of the ions constitute the current, each atom carrying with it an equal quantity of electricity. The human body is an electrolyte in virtue of the salines in its tissues. The principal saline being NaCl, the body acts electrically as a solution of chloride of sodium would.

Seeing that the ions or electrically charged atoms are some + and some –, and that these are capable of moving freely about and against each other, there must be a constant commotion amongst these ions. This is shown at A in Fig. 1, which is meant to illustrate diagrammatically the arrangement of the molecules and atoms of water when uninfluenced by an electromotive force from the outside. Note how the molecule has its atoms so arranged that the mutually repelling H ions are kept as far as possible apart, so that there would be no movement within the molecule, but for the action on its atoms of adjoining molecules. It is a different matter, however, as you will observe, with the molecules themselves, for where these are so placed that two H atoms approach each other or collide repulsion will follow between the molecules and, though in less degree, between the H atoms within the molecule also, due to the partial displacement of one of these by a H atom of an adjoining molecule. Let a small controlling force, however, say 1 volt, be applied and instantly the molecules arrange themselves as at B, so that all the O atoms point towards the + pole and all the H atoms towards the – pole, but no decomposition takes place. Let at least 2 volts of difference of potential, however, be brought to bear on the atoms of the water and we have what is represented at C. The atoms have changed partners all along the line, so that at the + pole an atom of O has broken off and at the – pole two atoms of H. In the case of water the atoms of the molecules are held together more firmly than are those of some other electrolytes, for, though a slight difference of potential between the electrodes inserted into the water would tend to make the molecules stand at attention as in B, it requires over 1·47 of a volt to bring about what is shown at C, the O and H having a strong attraction for each other. Expressed chemically, the O and the H have a strong chemical affinity for each other; expressed electrically, their difference of potential is high; just as the inherent difference of potential between Zn and Cu when brought into contact is relatively high. The constituents of some electrolytes have much less affinity, however, for each other. In such cases the movements of the ions must be more vigorous, not only amongst the molecules, but also amongst the atoms. An atom may break off from one molecule to attach itself to an adjoining one, or it may roam about free and be caught up for a time

[1] A paper read at a meeting of the Electro-Therapeutic Section of the Royal Society of Medicine held in Glasgow.

again; but movement is constant, causing the commotion from collisions amongst the ions. That this is the case, especially with solution of NaCl, was forced upon my notice recently whilst investigating some electro-chemical phenomena. I took a U-shaped tube containing normal saline solution, placed a carbon electrode into the solution in each limb, and connected these electrodes to a galvanometer giving milliampère readings. The result surprised me when I first observed it. It may be well known to electro-chemical experts, but it was previously unknown to me. Note that these carbon electrodes have no difference of potential, and therefore no migration of ions towards the separate rods might be expected, yet no sooner had the rods touched the solution than a current of 1 milliampère was found to be set up in the galvanometer. I suspected that the carbons might differ in potential owing to some impurities in one of them; since, when I reversed them in the limbs of the U-tube, I found that the direction of the current was reversed. That this was only occasionally the case, however, was evident after a few trials, the direction of the current varying apparently according to mere chance.[2] That this is so is indeed most likely, and imagination can readily picture atoms breaking off from their molecules, rushing about in a free state, reuniting, changing partners, and darting off again. Like "warlocks and witches in a dance," "they reel'd, they set, they cross'd, they cleekit," as Tam O'Shanter saw done at the midnight ball in Alloway Kirk. In such circumstances there must always be some free ions in the neighbourhood of the carbon electrodes. Let a few + ions happen to knock against one of the carbons in its rambles; these will give up their charge of electricity to that electrode, which will then become electro positive, and thus will a difference of potential be established between the carbons. All the more will this be the case if some of the − ions are at the same time similarly surrendering their negative charge to the other electrode. Thus, a current is set up between the electrode outside of the solution, and, as this current must pass through the galvanometer, its needle is deflected. The current once formed continues, I find, to circulate for an indefinite time, though gradually falling to about half a milliampère. The potential I found to be about one-fifth of a volt. It is not to be wondered at, therefore, that solution of NaCl should be a good conductor of electricity compared with water, which, if perfectly pure, is almost a non-conductor, due to the close electrical union between O and H. For no decomposition means no current, and the conductivity of a fluid is proportional to the number of its free ions multiplied by the velocity of their movement.

FIG. 1.




Whilst this illustration appeals to the imagination and helps to give a living picture of ionic movements, a simple experiment illustrating the decomposition of KI, in a solution of this substance with starch and phenolphthalein, appeals to the eye. The starch is colourless because there is no free iodine; the phenolphthalein is colourless because there is no free potash. Now, apply to one limb of the tube the positive pole from a battery and the negative pole to the other and note the change. In a few minutes the solution in the limb into which is inserted an electrode connected with the + pole becomes blue, indicating the presence of free iodine; whilst the solution in the other becomes red, from the action of the K on the phenolphthalein; the metal potassium, separated by the current, having combined with hydroxyl, whilst the other atom of H of the molecule of the water escapes as bubbles from this pole. A reversal of the current would result in the colours changing places. These changes are at the electrodes only. Changes such as those shown in Table I. have been going on. I show the potassium and the iodine only in this table to make the process less complicated. Observe also that the iodine atoms at the one end and the potassium atoms at the other have parted with their electric charges to their respective electrodes and have thus become free. This is electrolysis, and it is accompanied by ionic migration; but it is not ionic migration in the sense in which we apply the term when we speak of ionic medication. In electrolysis the changes are at the poles only,

TABLE I.—*Simple Electrolysis.*

*Before Current.*

```
        + + + + + + + +
        K K K K K K K K
+       I I I I I I I I       −
        − − − − − − − −
```

*After Current.*

```
          + + + +
          K K K K K K K K
+   I I I I I I I I           −
          − − − −
```

[2] Possibly the explanation is that casual differences of potential arise from the mere handling of the carbons. If so, it only shows how small a difference of potential suffices to cause ionic migration in such solutions at that of chloride of sodium.

though this has been brought about by the ions throughout the liquid constantly changing partners and going individually their respective ways.

Simple electrolysis has been employed in medicine for various purposes, notably by Apostoli in gynæcological cases, and this treatment is sometimes of undoubted benefit. The escape of nascent O and of the acids of the tissue electrolyte at the + pole, usually the intra-uterine one in the Apostoli treatment, has an antiseptic or a caustic action, whilst when the – pole is made the active one the tissues are softened and dissolved by the action of the sodium hydroxide obtained from the NaCl of the tissues and the hydroxyl of the split molecule of the water. In ionic migration phenomena, however, there is besides this a transfer of the ions of the applied solution or soluble electrode from one pole in the direction of the other: of zinc or copper, as the case may be, from the + pole, and of

TABLE II.—*Ionic Migration.*

*Mucous Membrane (Before Current).*

| | | |
|---|---|---|
| | + + + \| + + + + + | |
| + | Cu Cu Cu \| Na Na Na Na Na | – |
| | Cl Cl Cl \| Cl Cl Cl Cl Cl | |
| | – – – \| – – – – – | |

*Mucous Membrane (After Current).*

| | | |
|---|---|---|
| | + \| + + + | |
| + | Cu \| Cu Cu Na Na Na Na Na | – |
| | Cl Cl Cl Cl Cl \| Cl Cl Cl | |
| | – \| – – – | |

TABLE III.—*Ionic Migration.*

*Mucous Membrane (Before Current).*

| | | |
|---|---|---|
| | + + + \| + + + + + | |
| – | K K K \| Na Na Na Na Na | + |
| | I I I \| Cl Cl Cl Cl Cl | |
| | – – – \| – – – – – | |

*Mucous Membrane (After Current).*

| | | |
|---|---|---|
| | + \| + + + | |
| – | K K K Na Na \| Na Na Na | + |
| | I \| I I Cl Cl Cl Cl Cl | |
| | – \| – – – | |

iodine, sulphuric acid, or salicylic acid, as the case may be, from the – pole. The question as to which pole the substances leave is the important one, because in applying ionic medication in practice the other pole is at a neutral place, and so it may be for convenience ignored. Table II. illustrates what would go on in the case of copper when applied at the + pole, as Table III. indicates how KI would behave when applied at the – pole.

As ocular demonstrations of the power of electric currents to cause the transit of ions from the pole of application, it suffices to take a long strip of thin, soft leather, suitably folded and tied round one end of an open glass tube. This tube should be inserted into a vessel containing a solution of NaCl, whilst the substance employed to electrically penetrate the skins is poured into the tube. A current of electricity is then passed through the folds of leather for a definite time. As a contrast may be placed alongside this a strip of the same material which has been similarly treated but without having had any electric current passed through it. In this latter case simple diffusion has been in operation for exactly the same time as in the former. In the case where $CuCl_2$ has been the substance employed, solution of sulphurated potash may be used to convert the comparatively colourless $CuCl_2$ solution into the dark sulphide of copper. In this case both solutions should be of the same specific gravity and standing at the same level, so as to eliminate the actions of osmosis and of gravity. Where salicylate of soda has been the substance used tincture of perchloride of iron may be employed to render visible the passage of the salicylic acid from the – pole through the layers of the skin.

It will readily be admitted that, if this difference can be produced by electric means, a similar result may be expected in the case of the mucous membrane of the vagina and uterus, the conditions there as to gravity and osmosis being practically the same as in the salicylic acid experiment. But the difference is not one of degree only. For, whereas in the case of simple diffusion the substance will, in ordinary circumstances, pass into the intercellular spaces only, and be at once carried off by the blood and lymph streams, in the case of electric transudation on the other hand the ions penetrate into the protoplasm of the cell itself. No lodgment of micro-organisms can therefore escape the action of the drug. The effect, of course, will be either germicidal or simply antiseptic, according to the quantity of current employed. In estimating how much of the substance has penetrated a membrane it must be borne in mind that each atom carries the same quantity of electricity; but as these atoms differ in atomic weight the amount will be directly as the current and directly as the atomic weight. It will also be directly as the time during which the current has been allowed to flow. What is called the electro-chemical equivalent of an atom is the amount deposited by one ampère in one second, so that the transfer from 15 milliampères acting during 20 minutes will be the same in amount as would be yielded by a current of 30 milliampères acting for 10 minutes.

Before proceeding to record the results of my treatment of obstinate gynæcological cases by ionic medication, let me explain that these cases have been obstinate, not in the sense of being obscure, difficult to diagnose, or fit for treatment by the gynæcological expert only. Far from being so, they were all such as the general practitioner is probably treating every day in his practice; and, if he is satisfied with my results, he can easily himself carry out the treatment I have employed. Most of the cases of disease of the pelvic organs in women arise from a septic condition of the genital tract and its consequences. That present-day treatment for many of these diseases leaves much to be desired goes without saying. This is evidenced by the frequent and long-continued visits of semi-invalid women to the medical man's consulting room; varied occasionally by a stay of a week or two at a nursing home, and a probable operation requiring the administration of choloroform. Let me quote from an excellent treatise on "Medical Gynæcology," just published by Professor Howard A. Kelly, to prove that I am not exaggerating when I make these statements. My gynæcological colleagues will admit that this author is skilful, reliable, and thoroughly up-to-date. The sole treatment he recommends for endometritis, including the hæmorrhagic form, is, as might be expected, curettage. Chronic septic cervicitis he rightly characterises as one of the most obstinate of all gynæcological affections. Patients subjected to mild treatments by applications for this affection, he says, "will be obliged to frequent the office of the doctor year after year without gaining any substantial relief." In his opinion the only effective treatment is the actual cautery; repeated from once in ten days to once in two weeks. For chronic vaginitis he finds the best application to be a strong solution of nitrate of silver, applied in such a manner as to cause him to consider it a wise plan to keep the patient in bed for several days after, and to wait for two or three weeks before repeating this treatment. As to membranous dysmenorrhœa he says the treatment is "discouraging and the prognosis as to recovery with or without treatment is not good." He believes that curettage "may give temporary relief." Seeing that a woman with a chronic muco-purulent discharge from the vagina is likely to suffer from a septic condition of the vagina, of the cervix, and of the endometrium, it is obvious that frequently repeated severe measures must be resorted to for the cure of such a condition. This, at any rate, is the opinion of a man of wide experience in the treatment of pelvic affections; and most gynæcologists of the present day will substantially endorse this verdict where a radical cure is to be sought. I admit that considerable improvement often results from comparatively mild measures; but this is as a rule only temporary. The old condition sooner or later returns, and another course of treatment has to be gone through. Of course, I refer to cases of long standing, and those that present themselves for treatment are, from the nature of the cases, generally so.

Such reflections induced me some time ago to try the effect of ionic medication in the treatment of these cases, confining myself at first to those which had resisted all ordinary remedies. Let me give a brief record of two of the septic cases that some idea as to the chronic and obstinate nature of many of them may be formed.

CASE 1.—A woman, aged 41 years; was never pregnant. First attendance Dec. 3rd, 1903. General health poor, stomach distress, constant sickness, muco-colitis, dysmenorrhœa, pain in left iliac region; vulva red, tender, "burning"; copious thin pus in vagina and surrounding cervix; has been curetted once but with little benefit. Dec. 29th, 1903: Uterus curetted; some improvement afterwards, but the "creamy" discharge returned three weeks after. Under treatment, local and general, continuously from September, 1904, till September, 1905.

September, 1905: Curetted again; some improvement for two months after. December, 1905: Using tannic acid pessaries and vaginal douches of solution of borax for muco-purulent discharge. April, 1906: Still copious yellow discharge from vagina in spite of regular treatment. October, 1906: Evidence of left pyosalpinx, which fills and then empties itself into the uterus and vagina at regular short intervals. December, 1906: Copper ionisation, vaginal and uterine, begun. April, 1907: The secretion from the vagina and cervix is apparently now normal. There is no purulent discharge. The general condition is most satisfactory. The tongue is at last clean, which I have never before seen it. The patient herself says that she is more free from pain than she has been during the past eight or nine years.

CASE 2.—This patient was an unmarried woman. Oct. 31st, 1906: Was curetted in June last on account of purulent vaginal discharge which had lasted for years. There is still a copious discharge of pus from the vagina. Repeated applications of liquid carbolic acid into the cervical cavity being found of only temporary benefit, ionisation with copper was now commenced. Dec. 18th, 1906: Has had in all six applications of ionic medication. There is now found only a little whitish-yellow deposit around the cervix; general health has much improved; no further treatment necessary except an occasional vaginal douche of a weak solution of alum. November, 1907: Now in almost perfect health. No douching has been required since July.

All the septic cases in which I have employed this treatment have done equally well with the exception of one. The discharge in this case had been purulent, profuse, and of long duration, and it had proved refractory to all treatment including curettage. The micro-organism found was the bacillus coli. I may state here incidentally that in none of my cases has the gonococcus been found. Ten ionic applications in all were given to this patient and about three months after the close of the treatment Dr. John Ritchie reported to me as follows. "The discharge is less yellow, is rather indeed of a milky appearance. It is probable also that the total amount is lessened. It seems that at times it is absent." This I reckon as one of my two failures, the other having been a case of hæmorrhage as noted below. With ordinary treatment I should have considered the result a modified success.

What has impressed me during the practice of ionic medication has been the rapid improvement in cases of cervicitis. The discharge from having been muco-purulent and copious has become milky and of small amount; whilst the gaping os has become normal in size, with the everted mucous membrane drawn in, and erosions have rapidly healed. That the general health invariably improved, coincidently with the cure of the septic condition, is only what might have been expected; and that a tongue, which had been foul for years owing to auto-toxæmia, should become clean and remain so, without any gastric treatment, is one of the evidences of this constitutional improvement. In two of my cases this toxæmia was accountable for periodic attacks of severe gastric pain, due evidently to the effect of the toxæmia on the solar plexus. In such cases the dread of malignant disease on the part of the patient is not the least of the causes of distress. In one such case where the pain had lasted for 12 years this was completely removed after a few intra-uterine applications of the copper electrode. This was a year ago and there has been practically no return of the pain since. No case of hæmorrhage has failed to yield at once to the treatment by ionic medication with one exception—the other failure which I have to record. This patient came under my care on May 7th, 1907, complaining of menorrhagia which had been practically continuous since her marriage 17 years before. She had never been pregnant and had been twice curetted. The menorrhagia had been severe and had generally lasted from two to three weeks. I first curetted her and then applied ionic medication to the interior of the uterus. At first the result was gratifying but later the hæmorrhage returned for a time. The present report is "better than for years, able to do now what previously seemed impossible. Menstruation has been almost normal during the past three months. The last time was the best for many years." Although I am reckoning this as one of my two failures, the result here also would have been looked upon as a modified success under the previous treatment. In another of the hæmorrhage cases, where long-continued treatment had been of no avail, the bleeding stopped two days after the second application of ionic medication and it has not returned. This was a year ago. I have treated by this means one case only of membranous dysmenorrhœa. The amount of membrane expelled gradually decreased, and at the last menstruation no membrane could be detected. This is the first occasion in which I have been able to make a satisfactory impression on a case of membranous dysmenorrhœa. Nine applications in all were given, extending over a period of seven weeks. The pain, which previously had lasted for 12 hours, has disappeared with the disappearance of the membrane. Indeed, there is now less dysmenorrhœa than since marriage ten years ago.

In all my practice I had only one case of bacteriuria in women which proved intractable. This patient suffered from auto-toxæmia, causing repeated attacks of gastric pain and sickness which was often uncontrollable. For years she had been on an average three months in bed each winter from this cause. Some improvement had taken place after other sources of sepsis had been removed, such as foul teeth and septic endometritis; but no treatment by bladder injections or by general remedies had proved of any avail. Ionic medication of the interior of the bladder extending over a period of less than three weeks was commenced in March, 1907. In July following my notes state, "Better in health than since girlhood." The urine was still fœtid, however, though less so. In April of this year the urine was found to be entirely free from odour, and it became perfectly clear on been filtered through one ply of ordinary filter paper. The general health had remained good since the last report, the past winter having been the first for years which required practically no confinement to bed.

Having satisfied myself that ionic medication was of considerable service in obstinate cases of pelvic disease, and, in order to eliminate as far as possible any *post hoc* argument, I decided to try this treatment in the general run of cases. If those previously treated by this means had benefited in spite of their obstinate character, and if the treatment was the cause of this benefit, then *a fortiori* the same treatment ought to be successful is less obstinate cases. About a year ago I mentioned my experience of the treatment under consideration to some of my medical friends. Two of these, namely—Dr. W. F. Somerville of Glasgow and Dr. Agnes Savill of Harley-street—have put it to the test, each in two cases, where other treatment had failed; and they have both been kind enough to send me notes of these cases. Dr. Agnes Savill's report is as follows: "The treatment which you advised me to try worked like magic. I could not have believed it had I not seen it and done it." Dr. Somerville was equally gratified with his results.

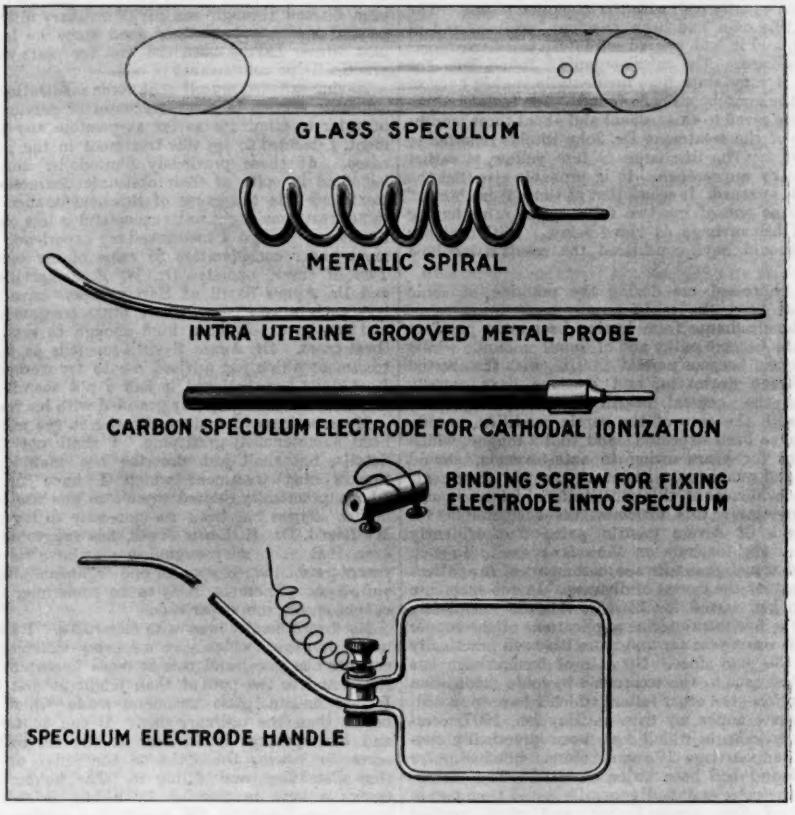
My experience of ionic medication in the milder cases has been monotonously gratifying. I shall not trouble about details, but shall just describe the method of application of this treatment which I have found suitable. I have practically limited myself to the use of copper and iodine. There has been no necessity to try other agents. My friend, Dr. H. Lewis Jones, has suggested to me, however, that each micro-organism may have its own specially potent germicide; copper for one organism, zinc for another, and so on. There is likely to be something in this, but I cannot speak from experience.

My first difficulty was with electrodes. I have had some made, however, which give me every satisfaction so far as convenience goes, and this is more important to the physician and to the patient than might at first be imagined. I have had a glass speculum made which suits much better than the ordinary one. It can contain more fluid and has openings in it, near to the cervical end, which serve to convey the fluid to the sides of the vagina, thus distending and filling it. The holder of the electrodes is kept in position by a bag of shot which rests on its broad end on the couch, the patient being on her back with a bed slipper under the pelvis. This holder (Figs. 2 and 3) keeps the speculum in position, preventing it from slipping out or from dropping. Everything being therefore fixed, the cervical or intra-uterine electrode can, after insertion through the speculum, be kept in position with perfect ease and safety. A spiral of copper wire inserted into the speculum and fixed to it serves for vaginal applications and also, without the speculum, for vulvar medication, as it can be used for pressing against a large pad of cotton soaked in the fluid and packed carefully against the opened vulva. The preparation of copper which I employ is the cupric chloride, the solution being 1 per cent., and I prefer now always to insert the cervical and the intra-uterine electrodes through the speculum. This ensures asepsis, and, the uterine electrode having grooves, the fluid can pass readily along the side and so fill the uterine cavity. Being applied to the + pole, the current must be reversed for about one-third of the time it has been allowed to flow in order to extricate the

electrode; otherwise there will be pain and bleeding. In order to avoid shock the current must be started and stopped slowly and steadily. I formerly applied the neutral electrode to the hypogastrium or to the sacral region, but this involved the undressing of the patient and prevented the current from being diffused equally throughout the cavity of the uterus, since it takes the most direct course to the neutral electrode. I find the hands a convenient place for the neutral electrode, a large clay one, because, being at a distance from the uterus, the current will more readily diffuse itself over the whole of the uterine wall. All rings must be removed, however, whilst the current is flowing, otherwise the fingers may be burnt beneath the rings. No pain need follow the application when the method I now follow is adopted; but in some of my early patient, whilst it requires little watching on the part of the physician. The current can be obtained from a battery of from 15 to 20 Leclanché cells of good size. I prefer this, as a source of current, to that obtained by a shunt circuit taken off the electric main. A rheostat is required to regulate the current and a galvanometer to register the quantity used. I find an average dose to be 15 milliampères for from 15 to 20 minutes. Should a larger dose be desirable this can be obtained by placing one pad over the hypogastrium and another connected to it over the sacral region.

Since I commenced to treat pelvic affections by means of ionic medication I have treated fewer cases of septic endometritis by curettage, and I am satisfied, from a long experience of the treatment of pelvic affections, inflammatory and septic, that in a large number of cases no other

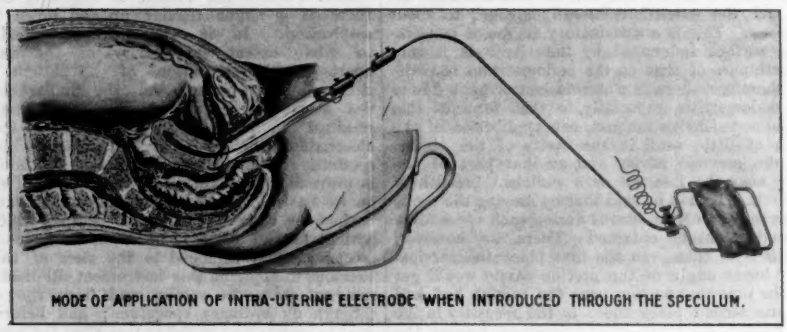
FIG. 2.


GLASS SPECULUM
METALLIC SPIRAL
INTRA UTERINE GROOVED METAL PROBE
CARBON SPECULUM ELECTRODE FOR CATHODAL IONIZATION
BINDING SCREW FOR FIXING ELECTRODE INTO SPECULUM
SPECULUM ELECTRODE HANDLE

cases considerable pain, and in two instances some pelvic cellulitis followed. No permanent injury, however, resulted. When the affection partakes at all of a sub-acute nature, or when past experience has led me to fear cellulitis as a result of the treatment, I prefer to start with iodine as the ionic agent instead of with copper. Of course, the — pole must then be the active one, and the electrode there should be a carbon one, as shown in Fig. 2. There is no advantage in applying the iodine wholly in an uncombined form, because it at once becomes converted into NaI when it enters the tissues. The solution I employ is a 2 per cent. one of iodide of potassium combined with 0·2 per cent. solution of liquor iodi. In the case of copper the solution should be 1 per cent. It is well I find to have the vulva and vagina fairly free from sepsis by the ionic measures before using the cervical or the intra-uterine electrodes, especially the latter. This treatment can with moderate care be rendered absolutely safe, and with the instruments I use involves no discomfort to the form of treatment will give results in any way approaching those to be obtained from ionic medication.

Figs. 2 and 3 show the electrodes used by me in this treatment and the mode of their application. In the case of the spiral metal electrode and the carbon one the binding screw serves at once for fixing them on to the speculum and for insertion of the end of the long rod of the electrode handle. In the case of the intra-uterine probe, however, two binding screws are necessary, since the special speculum one requires to be slipped along the probe according to the amount of insertion into the uterus required, whilst a second binding screw attaches the probe to the electrode handle. My practice of late in cases of widespread or specially obstinate sepsis of the genital tract has been modified by the use of a vulvo-vaginal electrode (see Figs. 4 and 5), by means of which the vulva is thoroughly ionised and the vagina is ballooned with the ionic solution, some of which must also find its way into the cavity of the uterus. This last

FIG. 3.



MODE OF APPLICATION OF INTRA-UTERINE ELECTRODE WHEN INTRODUCED THROUGH THE SPECULUM.

FIG. 4.

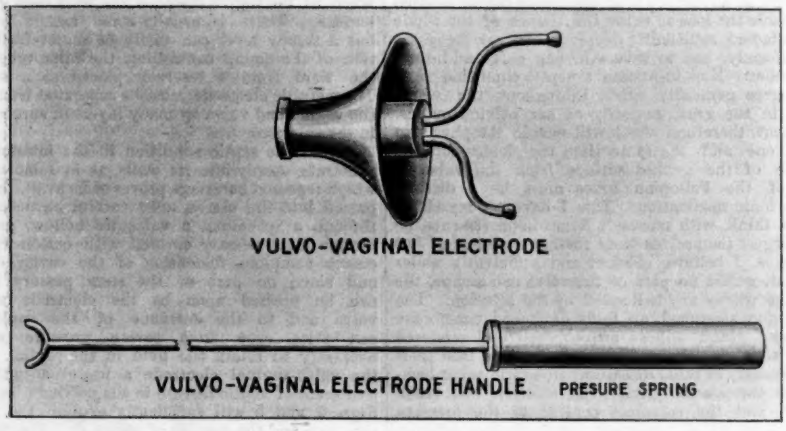
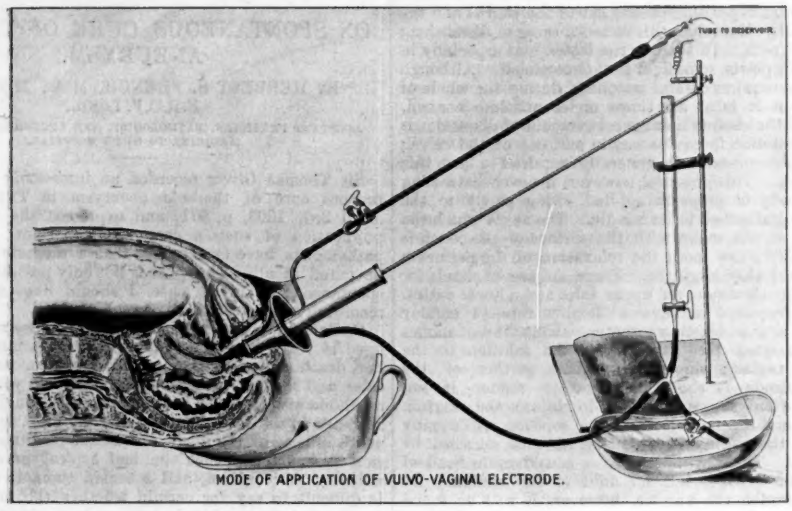



FIG. 5



point is of much importance, since, as I find by experiment, the electro-chemical action of a metallic uterine probe is almost entirely limited to its own track. With a medicinal dose of 300 milliampère-minutes the penetration and the extension laterally amount to about 1·5 milliampères. This is a satisfactory degree of penetration, but the surface influenced by the electrode is only about one-fourth part of that of the endometrium near the fundus. If, therefore, there is a uterine hæmorrhage due to a glandular endometritis, especially to that form of this affection called endometritis fungosa, one application of the probe can be of little avail in the cavity of the uterus, although in the cervical cavity and at that part of the uterine cavity near the internal os a sufficient breadth of action may result. It may be said that by moving the probe over the whole surface of the uterus during each application what is desired might be obtained. There are, however, several objections to this. In the first place the cervical cavity and the lower angle of the uterine cavity would get too much by the time that portion near the fundus had had enough. In the second place there is the necessity in the case of the copper electrode of requiring to reverse the current for a minute or two at each alteration of the position of the probe. There is also the risk of tearing away the electrode before it has had sufficient time to loosen, with resulting pain and probably bleeding.

It is therefore an advantage if an apparatus can be devised which will enable the ions to enter the tissues of the whole of the parts affected sufficiently deeply to destroy the septic condition uniformly, not to excess in one part and insufficiently in another. Now in woman a septic condition more or less in degree generally exists throughout the whole genital tract in the great majority of her pelvic troubles. Some instrument, therefore, which will enable the physician to apply at one and the same time the ionic solution to the whole of the genital surface from the vulva to the orifices of the Fallopian tubes must be a distinct gain in pelvic ionic medication. This I have set myself to design, and, I think, with success. Some improvements, no doubt, will suggest themselves from further experience; but the apparatus is, I believe, efficient and sufficiently under control, so that, whilst no part of the vulva can escape, the vagina and the uterus are ballooned by the solution. The walls are therefore stretched, all folds of mucous membrane are opened, and gland orifices are exposed and rendered gaping, as if soliciting the entrance of the ions into their interior. Moreover, in tubal disease when septic tubes communicate with the uterine cavity the solution will reach their interior, and the complete control of the pressure rendered possible by a measured head of the solution will make any danger of rupture of such tubes practically impossible.

I find a head of solution of about eight inches as much as enables the vagina to retain from two to six ounces of the solution, the amount depending on the size of the vagina and the tone of its walls. More than this causes a sense of distension; only rarely of pain. If there is the latter, and especially in the sides of the pelvis, some fluid is at once run off. Although the apparatus requires careful watching during the whole of the application it is at all times under absolute control. Indeed, I find that before a dangerous amount of distension is reached the solution forces its way in part out of the vulva; and considerable pressure is generally required to keep this from occurring. This pressure, however, is never distressing if the electrode is properly applied, owing partly to the pressure spring attached to its handle. The angle which the pressure rod should make with the surface of the couch is about 20° or 30°; the more the relaxation of the perineum the less should this angle be. There are two channels for the fluid in the electrode, an upper inlet and a lower outlet. The former requires to have a flexible tube—I employ the end of a gum-elastic catheter—about three inches in length inserted into it to carry the solution to the end of the vagina; since the vaginal portion of the metallic electrode is short in order to render it impossible for even severe pressure to injure the vagina. Indeed, without the flexible tube the solution will usually fail to enter the vagina at all, being at once returned by the exit tube. There will then be a considerable head of solution in the burette, but no fluid in the vagina. By raising or lowering the burette, however, it will be found that in these circumstances the level of the head of solution rises and falls with the burette, whereas with the vagina ballooned with the fluid the top of the solution remains at the same height relative to the vaginal inlet, no matter whether the burette is raised or lowered, though there is a slight regular up and down motion due to respiration. It is thus always possible to know to what extent the cavity of the vagina is filled apart from the sensations of the patient. By manipulation of the clamps on the indiarubber tubes and the stop-cock in the burette the quantity of fluid retained can be measured at the close of the séance. The electrode is held against the vulva by fixing the brass retaining rod against the upright of the retort stand, which is prevented from tilting by a heavy bag of shot which rests on its base. This rod is long enough to extend sufficiently beyond the edge of the slipper bed-pan which is under the patient as she lies on her back on the couch. The terminal is conveniently attached to the stem of the retort stand. Previous to applying this instrument all discharge should be removed from the vagina and from the cervical cavity through an ordinary speculum; and before allowing the fluid to be retained in the vagina after the application of the electrode a certain amount of the solution is passed through and allowed to flow out, so that the parts are made perfectly free from discharge. The clamp at the exit tube is then compressed and the stop-cock of the burette opened, when as the vagina distends the fluid rises gradually in the burette. There is usually some escape from the vulva, but a steady level can easily be maintained by manipulation of the clamp controlling the inlet tube which carries the fluid from a reservoir placed at a suitable height. The metallic electrode must be separated from the surface of the vagina and vulva by many layers of surgeon's lint soaked in the solution.

Should the septic condition in the interior of the uterus penetrate deeply into its walls, as in some of the cases in which repeated curettage proves of no avail, there can be first passed into the uterus, after careful cleansing of the parts through a speculum, a vulcanite hollow, perforated intra-uterine stem pessary covered with cotton-wool. This will ensure complete distension of the cavity of the uterus, and since no part of the stem pessary in the vagina can be pressed upon by the electrode applied to the vulva and to the entrance of the vagina no danger can arise even from severe pressure where this is necessary to retain the fluid in the vagina. I have found the vulvo-vaginal electrode a useful adjunct in the ionic treatment of septic disease in the pelvis in its severer forms. Figs. 4 and 5 will sufficiently explain the nature of the electrode and the manner of using it. The instruments for the treatment have been made for me by Messrs. Anderson and Buchanan, Renfield-street, Glasgow.

Glasgow.

## ON SPONTANEOUS CURE OF THORACIC ANEURYSM.

BY HERBERT S. FRENCH, M.A., M.D. OXON., F.R.C.P. LOND.,

ASSISTANT PHYSICIAN, PATHOLOGIST, AND LECTURER ON FORENSIC MEDICINE TO GUY'S HOSPITAL.

Sir Thomas Oliver recorded an interesting case of spontaneous cure of thoracic aneurysm in THE LANCET of April 3rd, 1909, p. 971, and expressed the view that the publication of such a case was important, because some pathologists have even denied that a thoracic aneurysm can be cured at all. That cure is not only possible, but may be spontaneous as in his case, I should like to testify to by recording another instance of such a result.

On Jan. 18th, 1907, I performed a necropsy upon a woman, aged 74 years, who came under observation nine hours before her death suffering from acute dyspnœa, associated with râles and rhonchi all over both lungs, and yet with so little available history that a precise diagnosis could not be made. She died in the early hours of the morning, apparently from acute œdema of the lungs, and at the post-mortem examination it was found that she had typical granular kidneys, adherent pericardium, and a healed thoracic aneurysm. It is difficult to say for certain whether the aneurysm itself accelerated death, but had there been no aneurysm at all

one would have been content, from the post-mortem appearances, to diagnose acute œdema of the lungs the result of atrophic red granular kidneys.

The patient was a thin old woman, quite free from any anasarca. Her rib and laryngeal cartilages were calcified. There was no pleurisy, but there was fibrous scarring at the apices of the upper lobes of the lungs, clearly from healed phthisis, and there were adhesions between the anterior margins of each upper lobe and the aortic aneurysm described below. There was no free fluid in the pleural cavities; both lungs were small, not obviously emphysematous, but extremely œdematous throughout. The heart, though not obviously dilated, was covered by a universally adherent pericardium. The weight of the organ empty was 252 grammes. There was no available history as to when or why she had had pericarditis. The coronary arteries were moderately atheromatous and tortuous, but they were quite pervious. The muscle of the heart showed some brown pigment degeneration, and there was some interstitial fibrosis. There was no acute dilatation of any of the cavities of the heart. Judging from the thin condition of the body the organ would have weighed less than 252 grammes had there not been some hypertrophy of the left ventricle. The tricuspid, pulmonary, and mitral valves were natural for the patient's age. The aortic valves were but slightly atheromatous, and neither stenosed nor incompetent. Immediately above them, however, the aorta became extremely atheromatous, with such extensive calcification of the deeper layers of the tunica intima that the whole of the thoracic and abdominal aorta felt as if coated by egg-shell, the tube being rigid and calcareous to a very marked degree. In addition it was greatly thickened and much dilated, especially in the arch, which was distended into what was equivalent to a fusiform aneurysm. The distance between the aortic valves and the orifice of the innominate artery was stretched and lengthened so as to measure six inches, and in the middle of this, on the right side three inches above the aortic valves, was a brown opening less in diameter than a sixpenny-piece, with calcareous edges, through which the finger-tip could just be inserted, to come into immediate contact with a hard material which was found to be the firm, laminated, and

FIG. 1.

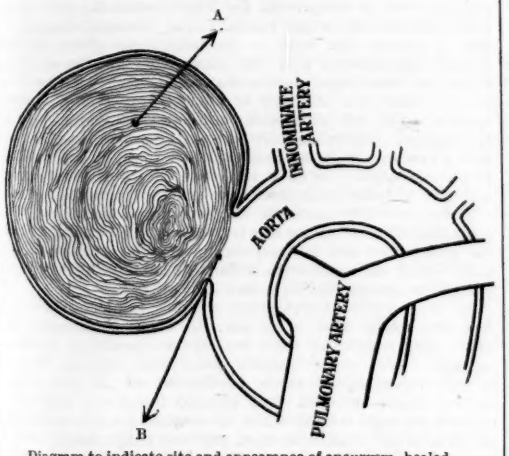



Diagram to indicate site and appearance of aneurysm, healed. A, Sac of aneurysm quite obliterated by firm old organising clot. B, Opening into saccular aneurysm closed by firm organising clot.

extensively organised contents of a saccular aneurysm, which looked nearly the size of a tennis ball and was spherical and approximately three inches in diameter. This aneurysm, except quite close to its aortic orifice as described above, was entirely filled with hard, laminated, fibrosed clot, which was everywhere adherent to the wall of the sac and so hard that it could not be broken down by the fingers; nor could the fingers be pushed between it and the wall of the aneurysm. As has been said already, the contents of the sac came right up to the level of the wall of the aorta, so that the aneurysm could truly be said to have been spontaneously healed. The note made in the report at the time was: "This condition, is, I think, comparatively rare. The specimen was therefore sent to the Museum." It is in the Museum now. The aneurysmal sac was partly within and partly outside the pericardium, and it was adherent to both pleuræ, more especially the right. It did not obstruct either the right or the left bronchus, the main pulmonary artery, nor the left pulmonary artery. Lying as it did immediately in front of the right pulmonary artery, however, it projected into the lumen of the latter, partly, but not completely, obstructing it by causing its lumen to be crescentic on cross section instead of circular. The accompanying diagrams (Figs. 1 and 2) may serve to indicate how this occurred.

The liver weighed 1220 grammes, it was not cirrhotic, and exhibited no evidence of syphilis. It was small and of normal colour and consistence. The spleen weighed 156 grammes. It was adherent to the diaphragm as the result of former

FIG. 2.

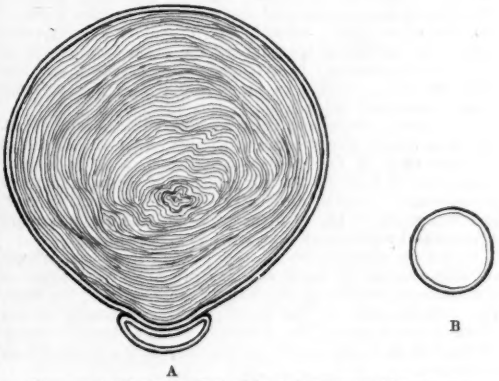



Diagram to illustrate effect of healed aneurysm of aorta on right pulmonary artery. A, Right branch of pulmonary artery distorted into crescentic shape on section, owing to compression by healed aortic aneurysm. B, Left branch of pulmonary artery, natural circular outline on section.

capsulitis. The two kidneys weighed 180 grammes together. They were symmetrical typically granular organs, of dull-red colour, with thick capsules, peeling with difficulty, and leaving a rough nodular surface containing several retention cysts. The cortex was diminished to about one-third its natural width. The medulla was less atrophied than was the cortex. The line of demarcation between the cortex and medulla was well defined. The pelves of the kidneys were neither dilated nor inflamed; the renal arterioles were prominent, with thick walls.

I think death in this case occurred, as I have said above, from acute œdema of the lungs, the result of chronic interstitial nephritis, and judging from the post-mortem appearances I think the thoracic aneurysm was of secondary importance as a cause of death. Whether this was so or not I feel sure that the case affords considerable support to Sir Thomas Oliver's contention that an aneurysm of the arch of the thoracic aorta, within a few inches of the aortic valves, is spontaneously curable. If this can occur spontaneously one need not be absolutely hopeless of being able to assist the cure of an aneurysm by careful treatment.

St. Thomas's-street, S.E.

ASYLUM WORKERS' ASSOCIATION.—The annual general meeting of this society, which was founded in 1895 to improve the status of asylum nurses and attendants, to provide for them "homes of rest and nursing," and to enlist public sympathy in their work, will be held at 11, Chandos-street, Cavendish-square, London, W., on Tuesday, July 13th, 1909, at 3 P.M., Sir William J. Collins, M.P., President of the Association, being in the chair. There will be a presentation of two gold and two silver medals, awarded by the association for long and meritorious nursing service. All who are interested in asylum work and workers are invited to attend.

# THE TREATMENT OF GONOCOCCUS INFECTIONS BY VACCINES.

BY JOHN W. H. EYRE, M.D.,
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AND
BERNARD H. STEWART, M.A., M.B., B.C. CANTAB.,
LATELY CLINICAL ASSISTANT IN THE VACCINE DEPARTMENT, GUY'S HOSPITAL.

SINCE the publication, only a few years ago, of the details of Wright's exhaustive investigation into the principles underlying the phenomena of phagocytosis, and the theory of immunity towards bacterial infections which he deduced therefrom, vaccines have gained a wide field of application. There are now many diseases which have received a prolonged trial by this method of treatment, and judging from the casual references to be met with in current literature and the advertisements of vaccine makers, *gonococcus* infection affords a striking example of the success of vaccine therapy. On the other hand, careful search reveals a remarkable absence of anything approaching an exhaustive record of exact results obtained in extended series of cases, and this fact, we feel, justifies us in detailing here our personal observations and impressions in this connexion.

*Literature.*—Butler and Long compared 12 cases of vulvo-vaginitis in children treated with polyvalent stock vaccine in doses of from 1,000,000 to 50,000,000, with 12 similar cases treated with four-hourly douches of permanganate of potassium, followed by applications of 20 per cent. argyrol, and demonstrated the fact that vaccine therapy was more efficient and satisfactory than local treatment alone.

Whitmore recommends for the treatment of gonorrhœal arthritis the use of stock vaccines prepared from three or four different strains at intervals of from seven to ten days, and records some of the striking and remarkable results which he has obtained; he, however, refrains from expressing an opinion as to the utility of vaccines in the treatment of urethritis.

Loxton advises the use of doses of 40,000,000 to 50,000,000, rapidly increased, either by reducing the interval between the injections or by augmenting the dose, or by combining these measures. He records three cases of simple chronic gonorrhœa treated with stock vaccines injected at intervals of about ten days.

Cole and Meakins treated 15 cases (12 males and three females) who had suffered from gonorrhœal arthritis for periods varying from 17 days to 18 months, with doses of stock vaccines varying from 300,000,000 to 1,000,000,000. The average number of injections given was four, at intervals of seven to ten days, and the duration of the treatment was 29 days. The indices of the patients under treatment ranged from 0·2 to 2·0. They noted in one case only a local reaction at the seat of inoculation from 12 to 24 hours after the injection, which diminished in intensity with each succeeding injection, and constitutional disturbance marked by sharp rise of temperature and general malaise also in one case alone. The authors conclude that vaccine treatment is of distinct value.

Irons treated 40 cases of gonococcus infection, of which nine were suffering from arthritis. He used stock vaccines prepared from two or three different strains of gonococci. At first he used doses of 20,000,000 to 50,000,000, but regarded these as of little value, and subsequently employed doses of 100,000,000 and later still 1,000,000,000 at intervals varying from three to seven days. No harm followed his injections, and he considers that although of little value in the treatment of acute clinical manifestations, gonococcal vaccines are very valuable in chronic cases.

*Clinical material.*—The majority of our cases were derived from the out-patient departments of Guy's Hospital, the Lock Hospital, and St. Paul's Hospital; a small number of patients were in the wards of Guy's Hospital; we take the opportunity of expressing our thanks to Dr. W. Hale White, Dr. G. Newton Pitt, Dr. A. P. Beddard, Dr. John Fawcett, Mr. Alfred Allport, and Mr. E. C. Hughes for kindly affording us facilities for access to cases under their care; the remainder have been taken from our private case books. In point of time the gathering of our material has extended over a period of rather more than three years—from early in 1906 to the end of March, 1909. According to the clinical signs and symptoms our cases may be grouped as follows:—

| | Males. | Females. | Total. |
|---|---|---|---|
| I. Gonorrhœal septicæmia and sapræmia | 1 | 0 | 1 |
| II. Simple acute gonorrhœa | 11 | 3 | 14 |
| III. Simple chronic ,, | 4 | 1 | 5 |
| IV. Chronic gonorrhœa complicated by orchitis and epididymitis | 4 | 0 | 4 |
| Chronic gonorrhœa complicated by iritis | 4 | 0 | 4 |
| Chronic gonorrhœa complicated by arthritis | 17 | 8 | 25 |
| Total | 41 | 12 | 53 |

*Diagnosis.*—The diagnosis of gonococcus infection depends primarily upon the isolation, cultivation, and detection of the gonococcus—a fact which we have always had in mind; but in some of our cases this final proof has been lacking, and we have been compelled to rely upon other data, such as the opsonic index and the effect of vaccine therapy. Take, for example, the case of the female patient attending hospital for severe multiple arthritis (and we have had many of these); the character of the pain, the distribution of the lesions, and the appearances of the affected joints suggest gonorrhœal arthritis; confirmatory evidence is afforded by a low opsonic index to the gonococcus (0·4 or lower), or, as in some instances, by a high index (3·0), yet careful examination fails to reveal the presence of the gonococcus in the urethra, vagina, or cervix, or in fluid obtained with the aspirating needle from the affected joints. In order to convert what many will regard as merely presumptive evidence into conclusive proof it would be necessary to repeatedly examine the mucous membrane of the genital tract until the engorgement of the organs of reproduction which immediately precedes some future menstrual flow should drive the gonococcus from the deeper layers of the mucous membrane to the surface, where it would be detected by the bacteriologist—a measure obviously impracticable in a large general hospital already suffering from pressure on available beds. It is true the deviation of complement test might be applied to the serum of these patients, but in the time at our disposal it was not found possible to perform this laborious and delicate reaction; moreover, there are sceptics even in the present day who question the reliability of the Bordet and Gengou reaction as a means of diagnosis. But if, pinning our faith to the indications given by the clinical appearances and the movements of the opsonic index, we administer gonococcus vaccine and find that the blood serum gives evidence of the occurrence of a typical opsonic cycle, the joints clear up, and the patient rapidly convalesces, then we consider ourselves justified in including such a case in our series, and as will be seen by the details we have tabulated, we have had the courage of our opinion and have included more cases than one of this nature.

*Technique.*—The methods adopted with regard to the collection of material for the isolation and identification of the gonococcus and the preparation of the vaccine necessarily varied somewhat with different cases, but were always planned on the general lines here indicated.

(*a*) In gonorrhœal septicæmia an ordinary blood cultivation was made—that is to say, 10 cubic centimetres of blood were withdrawn from the median basilic or median cephalic vein under aseptic conditions into a sterile syringe containing 1 cubic centimetre of 10 per cent. sodium citrate solution. The citrated blood was then distributed amongst several tubes of nutrient (+ 10) broth, or added to tubes of nutrient agar, previously liquefied by heat, and plate cultures poured into Petri dishes, and in all cases incubated at 37° C.

(*b*) In all other forms of gonorrhœal infection the isolation of the gonococcus was attempted from the urethra in the male and from the urethra and cervix uteri in the female; the medium used for primary cultures was invariably that known as blood agar. This is prepared by adding a few cubic centimetres of citrated human blood (or on emergency rabbit's blood) to a tube containing 10 cubic centimetres of nutrient agar (+ 10) previously liquefied by heat, mixing thoroughly, and then allowing to cool and set in the slanting position. Upon this medium the gonococcus develops rapidly and remains living certainly for 14 days, and often longer. In making cultivations from the urethra we found the small size (5 millimetre calibre) Kelly's urethroscope of

great assistance. The glans and meatus were first thoroughly cleansed with swabs moistened with perchloride of mercury, then the sterilised urethroscope (smeared with sterile paraffin) was introduced into the urethra to the depth of three or four centimetres. Next the obturator was removed and a sterile platinum spatula was introduced and gently rubbed over the mucous membrane of the urethra beyond the end of the tube. The spatula was drawn back into the lumen of the urethroscope, both instruments were withdrawn from the urethra together, and the material collected on the spatula was then utilised to inoculate two or three blood-agar tubes "in series" and incubated at 37° C. for 24 hours.

For the collection of material from the cervical canal a sterile glass speculum some 18 centimetres long by 1·5 centimetres in diameter, similar in shape to a Fergusson's speculum, was employed; this was passed into the vagina and the end pressed against the os; a sterile cotton-wool swab mounted on a long slender stick was then passed through the speculum into the os, and when infected used to inoculate blood-agar tubes in series. By a repetition of these manœuvres material was obtained for a cover-slip film preparation, which was subsequently stained and examined. If typical intracellular Gram-negative diplococci were detected microscopically the isolation of the gonococcus was certain, for supposing other organisms were associated with it the colonies on the second or at any rate on the third tube of each series were sufficiently discrete to ensure a pure growth being obtained by means of subculture on to fresh tubes of blood agar. The only associated organism that gave rise to any difficulty in this matter of isolation was B. xerosis, a family term embracing several varieties of a diphtheroid bacillus which is frequently met with in the healthy, and rarely absent from the diseased, genital tract. This organism forms moist, translucent, raised colonies on blood agar after 24 hours' incubation at 37° C., which are indistinguishable to the naked eye from those of the gonococcus, and were the cause of many wasted tubes of nutrient media.

The gonococcus, when isolated, was identified by its morphological and tinctorial reactions; the fact that its second generation would grow upon blood agar at 37° C. but not upon ordinary agar or in ordinary broth at the same temperature, nor upon blood agar at the room temperature; that it would ferment only those carbohydrates belonging to the monosaccharide group, and then only when dissolved in serum broth.

For the preparation of vaccines and for all opsonin estimations cultures upon blood agar not more than 24 hours old were employed, as, owing to the rapid appearance of involution forms, older cultures are useless for either purpose. The emulsions were prepared with 0·1 per cent. sodium chloride solution and a homogeneous mixture obtained by shaking the emulsion with sterile glass beads for ten minutes in an electrical shaker. Standardisation was effected by the help of Wright's method of enumerating the organisms present in the emulsion (i.e., by the utilisation of a mixture of equal quantities of emulsion and normal human blood in preparing a film, which, after staining, was examined microscopically and the ratio of red cells to cocci estimated). Sterilisation of the vaccine was performed by exposing the emulsion in a water bath to a temperature of 50° C. for an hour. After the addition of 0·25 per cent. trikresol the vaccine was put up in glass bulbs containing 5,000,000, 10,000,000, 50,000,000, or 100,000,000 gonococci and again heated at 50° C. in the water bath for half an hour.

The opsonic index was in most cases recorded as often as possible. In a few the treatment was carried out by the help of clinical signs only. The emulsion of gonococci employed in these estimations should not be too strong. With a little practice it becomes fairly easy to judge of the strength by the opacity of the emulsion, but it is wiser to stain a drop of the emulsion itself and thus ascertain its strength. A good working emulsion is one which will give from 200 to 300 cocci per 50 leucocytes in the normal preparation. The preparations were always stained by Leishman's modification of Romanowsky's stain.

### *Treatment.*

*Vaccines employed.*—In every case the treatment was primarily, if not wholly, by vaccine. In some of the cases a polyvalent vaccine, composed of equal numbers of gonococci from three different sources ($G^3$) was used, and in others, a polyvalent vaccine composed of ten strains ($G^{10}$), but in 19 of the cases autogenous (A) vaccines were employed. A comparison of these cases leaves no doubt in our minds that valuable as stock vaccines are, autogenous vaccines are superior.

*Dosage.*—Considerable variation in dosage was tried. Early in 1906 doses of 100,000,000, 250,000,000, and even 500,000,000, were employed, but our experience quickly demonstrated the fact that the gonococcus recently isolated in pure culture was too toxic to the human subject to permit the employment of such enormous doses. During the last 18 months in some cases 5,000,000 were first employed, and then increased to 10,000,000. 25,000,000 were never exceeded, indeed, were only once given, as we found such a dose quite unnecessary and by no means free from risk. In other cases, 1,000,000 to 2,000,000 were tried to commence with and this dose never increased. Taking all things into consideration we are of the opinion that the cases treated with the smaller doses at short intervals did better than those with the larger doses at long intervals.

During the first fortnight or three weeks of infection very small doses only are permissible (from 500,000 to 2,000,000). We have information regarding two acute cases and one chronic case, where the injection of a large dose (from 25,000,000 to 50,000,000) was followed within 48 hours by acute orchitis and epididymitis in one case and joint affections in the others. In one of our recent cases a dose of 5,000,000 was followed by a rise of temperature to 102·4°F., which persisted for some days; clearly even this dose was too strong for the particular patient. One may assume that a dose is always excessive if followed by an appreciable rise of temperature or other constitutional disturbance.

In explanation of the necessity which we found for reducing the size of our doses, we may mention that in the early days of these observations the technique for isolating the gonococcus had not reached its present state of perfection, and the strain eventually utilised for the preparation of the vaccine was sometimes five, six, or more generations removed from the patient's tissues. Such vaccines are less toxic, require larger doses to produce any adequate movement of the opsonic index, and from clinical experience are less potent therapeutically than those prepared from a first or second culture—such as is now employed. A further point, and one of some interest, relates to the preparation of the emulsion At first the emulsion was shaken with beads, *by hand*, and the vaccine was often far from homogeneous in character, resulting in inaccurate standardisation in the direction of over-estimation. Control estimations of the strength of the vaccine by plating methods sometimes showed an error of 50 per cent. The introduction of an electrical shaker has reduced this error to less than 5 per cent., and the labour of vaccine preparation to a minimum.

*Other therapeutic agents.*—In addition to the vaccine, very dilute solutions of potassium permanganate were employed in a few cases of urethritis and vaginitis under conditions that will be referred to later. Painful joints were wrapped in cotton-wool, and in many cases a mixture of some sort, generally citrate of potash and sulphate of magnesia or infusion of buchu, was administered by the mouth; for, as all who have studied the hospital out-patient will agree, a bottle of medicine of some sort is an imperative necessity if regular attendance is required. Finally, in a few instances of arthritis, massage and radiant heat baths were employed towards the end of treatment, in order to increase the mobility of the joint.

*Gonococcal septicæmia.*—Under the heading of gonococcal septicæmia but one case falls into this present series; and as there were special points of interest about that case a few brief notes may be of value.

The patient, a male, was admitted on July 3rd, 1908, for rigors, pyrexia, and arthritis of the wrist of 14 days' duration. The patient had suffered from a gleet for several years, the chronicity of which may have been accentuated by a severe phimosis. Four months before admission there had been a considerable exacerbation of the urethritis, although when first seen the discharge was slight in amount, and no gonococci could be isolated from it. A fortnight later cultures prepared from blood drawn from the median basilic vein showed the presence of the gonococcus. Two doses (with an interval of five days between them) of 5,000,000 and 10,000,000 respectively of a trivalent gonococcus vaccine

## TABLE OF CLINICAL DETAILS.[1]

*Acute Gonorrhœa.*

| No. | Age. | Sex. | No. of attack. | Duration of illness before treatment. | Clinical features. | Diagnosis. | Brand of Vaccine. | No. of doses. | Size of dose in millions | Range of index. | Average interval. | Under observation. | Result. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10 | 20 | M. | 2 | 2 weeks. | Simple acute. | Gonococcus isolated. | $G^3 + G^{10}$ | 5 | 5-10 | 0·4-2·5 | 8 days. | 6 weeks. | Cured. |
| 11 | 29 | M. | 1 | 3 ,, | — | ,, | $G^{10} + A$ | 4 | ½-25 | 1·0 | 15 ,, | 9 ,, | ,, |
| 6 | 27 | M. | 1 | 10 days. | — | ,, | $G^{10}$ | 8 | 3-10 | 0·8-1·4 | 9 ,, | — | ,, |
| 14 | 55 | M. | 7 | 1 month. | — | ,, | $G^{10} + A$ | 9 | 2-25 | 0·8-2·0 | 10 ,, | 3 months. | Great improvement. |
| 12 | 34 | M. | 2 | 3 weeks. | — | ,, | $G^{10}$ | 4 | 5-10 | 0·52-1·0 | 7 ,, | 1 month. | ,, |
| 13 | 30 | M. | 1 | 3 ,, | — | ,, | $G^{10}$ | 2 | 10 | — | 7 ,, | 2 weeks. | ,, |
| 8 | 23 | M. | 1 | 2 ,, | — | ,, | $G^{10}$ | 8 | 1-3 | 0·6-1·7 | 5 ,, | 6 ,, | ,, |
| 2 | 31 | M. | 1 | 1 week. | — | ,, | A | 3 | 5-10 | 0·7-2·0 | 4 ,, | 3 ,, | Cured. |
| 3 | 25 | M. | 1 | 1 ,, | — | ,, | $G^{10}$ | 3 | 2·5-5 | 1·54 | 7 ,, | 1 month. | Improved. |
| 4 | 19 | F. | 1 | 1 ,, | — | ,, | A | 6 | 1-10 | 0·33-2·06 | 6 ,, | 3 months. | Cured. |
| 9 | 18 | M. | 1 | 2 weeks. | — | ,, | A | 5 | 5-10 | 0·4-3 | 6 ,, | 2 ,, | ,, |
| 5 | 8 | F. | 1 | 1 week. | — | ,, | A | 4 | 1-5 | 0·4-1·7 | 5 ,, | 1 month. | ,, |
| 1 | 28 | M. | 1 | 5 days. | Ophthalmia. | ,, | A | 3 | 20-100 | — | 4 ,, | 10 weeks. | Urethritis improved. Ophthalmia not affected if not aggravated. |
| 7 | 29 | F. | Married. | 17 days. | — | ,, | $G^{10}$ | 4 | 2-10 | — | 5 ,, | 1 month. | Cured. |
| | | | | | | *Simple Chronic Gonorrhœa.* | | | | | | | |
| 4 | 30 | M. | 10 | 8 months. | Simple chronic. | Gonococcus isolated. | $G^{10}$ | 8 | 5-25 | 0·5-2·6 | 8 days. | 9 weeks. | Improved. |
| 3 | 37 | M. | 2 | 4 ,, | — | ,, | $G^{10}$ | 4 | 2-10 | 1·0-1·8 | 7 ,, | 4 ,, | Great improvement. |
| 1 | 29 | M. | 1 | 5 weeks. | — | ,, | $G^{10} + A$ | 6 | 5-25 | — | 7 ,, | 2 months. | Cured. |
| 5 | 25 | M. | 2 | 11 months. | — | ,, | A | 3 | 5-10 | — | 7 ,, | 1 month. | Great improvement. |
| 2 | 24 | F. | 1 | 3 ,, | — | ,, | A | 6 | 5-25 | 0·9-1·8 | 7 ,, | 3 months. | Cured. |
| | | | | | | *Orchitis.* | | | | | | | |
| 4 | 27 | M. | 3 | 12 months. | Orchitis. | Gonococcus isolated. | $G^{10}$ | 8 | 1-5 | 0·5-1·9 | 9 days. | 11 weeks. | Improved; relapse; cure. |
| 3 | 26 | M. | 1 | 9 ,, | ,, | ,, | $G^{10}$ | 3 | 1-2 | 0·8-1·5 | 7 ,, | 3 ,, | Rapid cure. |
| 1 | 28 | M. | 1 | 5 weeks. | ,, | ,, | A | — | — | — | — | — | — |
| 2 | 26 | M. | 2 | 6 ,, | ,, | ,, | A | 4 | 10-25 | — | 7 days. | 2 months. | Cure. |
| | | | | | | *Iritis.* | | | | | | | |
| 4 | 30 | M. | 3 | 10 months. | Iritis, 3 months. | Gonococcus isolated. | $G^{10}$ | 6 | 2-10 | 0·75-1·35 | 7 days. | 6 weeks. | Cured. |
| 3 | 25 | M. | 1 | 5 ,, | ,, 1 month. | ,, | $G^{10}$ | 3 | 2·5-5 | — | 10 ,, | 4 ,, | ,, |
| 2 | 23 | M. | 2 | 1 month. | ,, 1 ,, | ,, | $G^{10}$ | 4 | 1-2·5 | 0·9-1·6 | 5 ,, | 3 ,, | ,, |
| 1[a] | 22 | M. | 1 | 1 ,, | ,, 3 weeks. | ,, | $G^{10}$ | 3 | 1-2·5 | — | 6 ,, | 3 ,, | Improved. |
| | | | | | | *Arthritis.* | | | | | | | |
| 1 | 37 | M. | 1 | 3 weeks. | Multiple arthritis. | Gonococcus isolated. | $G^3$ | 3 | 250 | 0·76-1·9 | 7 days. | 6 weeks. | Cured. |
| 2 | 26 | M. | 1 | 3 ,, | ,, ,, | ,, | $G^3$ | 3 | 250 | 0·6-1·44 | 7 ,, | 7 ,, | ,, |
| 8 | 31 | F. | Married. | 5 ,, | ,, ,, | ,, | A | 2 | 250 | — | 10 ,, | 6 ,, | ,, |
| 3 | 22 | M. | 1 | 3 ,, | ,, ,, | ,, | A | 3 | 500 | — | 9 ,, | 2 months. | Relieved. |
| 4 | 26 | M. | 1 | 3 ,, | ,, ,, (also epididymitis). | ,, | A | 3 | 100-200 | 0·7-3·66 | 12 ,, | 5 ,, | Cured. |
| 25 | 30 | F. | — | — | — | ,, | $G^{10}$ | 3 | 250 | — | 7 ,, | 2 ,, | ,, |
| 19 | 28 | F. | Married. | 6 months. | Right knee. | ,, | A | 4 | 5-50 | — | 9 ,, | 6 ,, | Relieved. |
| 13 | 35 | M. | 2 | 3 ,, | Multiple. | ,, | $G^3$ | 4 | 10-50 | — | 10 ,, | 6 weeks. | Cured. |
| 18 | ? | M. | 3 | 4 ,, | Right ankle, right hip. | ,, | $G^3$ | 7 | 10-50 | — | 10 ,, | 10 ,, | ,, |
| 12 | 32 | M. | 1 | 2 ,, | Multiple. | ,, | A | 4 | 5-25 | — | 6 ,, | 6½ ,, | ,, |
| 5 | 30 | F. | Married. | 3 weeks. | ,, | ,, | $G^3$ | 4 | 5-10 | 1·22-3·0 | 3 ,, | 2 ,, | ,, |
| 6 | 28 | M. | 1 | 3 ,, | ,, | ,, | $G^3$ | 3 | 5-7·5 | 6 | 6 ,, | 3 ,, | ,, |
| 14 | 24 | F. | ? | 3 months. | ,, | ,, | $G^{10}$ | 6 | 5-10 | 0·4-1·6 | 10 ,, | 7 ,, | ,, |
| 7 | 27 | M. | 1 | 3 weeks. | ,, | ,, | $G^{10}$ | 8 | 1-10 | 0·8-2·6 | 10 ,, | 11 ,, | ,, |
| 12a | 38 | M. | 6 | 9 ,, | ,, | ,, | $G^3$ | 3 | 5 | 0·7-1·8 | 10 ,, | 4 ,, | Improved. |
| 11 | 21 | M. | 1 | 2 months. | Left elbow. | ,, | $G^{10}$ | 5 | 5-10 | 0·5-11 | 10 ,, | 8 ,, | Cured. |
| 22 | 22 | M. | 1 | 8 ,, | ,, | ,, | A | 8 | 5-25 | 0·6-2·5 | 10 ,, | 4 months. | Improved. |
| 15 | 30 | M. | 3 | 3 ,, | Multiple. | ,, | $G^3$ | 5 | 5-25 | — | 9 ,, | 5 weeks. | ,, |
| 16 | ,, | ,, | Relapse three months later. | | | ,, | $G^{10}$ | 12 | 5-15 | — | 9 ,, | 3 months. | ,, |
| 9 | 28 | M. | 1 | 1 month. | Right wrist. | ,, | $G^3$ | 11 | 25-50 | — | 10 ,, | 4 ,, | Cured. |
| 10 | 28 | M. | 1 | 1 ,, | Ankles. | ,, | A | 3 | 500 | 0·76-1·9 | 7 ,, | 1 month. | ,, |
| 23 | 49 | F. | Married. | 9 months. | Multiple. | Index 4·0 | $G^3$ | 3 | 5-10 | 1·22-4·0 | 7 ,, | 1 ,, | ,, |
| 17 | 32 | F. | ,, | 4 ,, | Metatarsals of right hand. | Gonococcus isolated. | $G^3$ | 2 | 25 | — | 10 ,, | 1 ,, | ,, |
| 24 | 29 | M. | 1 | 12 ,, | Multiple. | ,, | $G^3$ | 4 | 25 | — | 10 ,, | 2 months. | ,, |
| 20 | 28 | F. | Married. | 6 ,, | Left shoulder. | Index 3·0 | $G^{10}$ | 3 | 5 | 0·3-1·53 | 5 ,, | 1 month. | Improved. |
| 21 | 45 | M. | 2 | 6 ,, | Knees. | Gonococcus isolated. | $G^3$ | 7 | 10-25 | 0·4-1·5 | 20 ,, | 5 months. | Relieved. |

[1] The numbers in the first column give the order of duration of illness in each section. (About half the cases referred to in these tables formed the subject of a thesis by one of us (B.H.S.) which was accepted for the degree of M.D. Cantab.)

were administered. Ten days later treatment with autogenous vaccine was commenced, and two doses of 2,500,000 and 5,000,000 were given at intervals of three days. On Aug. 28th, and again on Sept. 9th, the blood drawn from veins in the arm appeared quite sterile, the arthritis had subsided completely, the urethritis had disappeared, and the patient was convalescing rapidly. On Sept. 25th the patient experienced several rigors, with marked pyrexia, headache, and drowsiness. Cultures from the median basilic vein gave a pure cultivation of pneumococcus, no gonococci could be detected, and it is of interest to note that a few days previously the beds on either side of the patient had become occupied by a case of acute pneumonia and a case of empyema which had been drained. A pneumococcus vaccine was prepared and a 5,000,000 dose was injected on Oct. 1st. On Oct. 6th the patient died from general pneumococcic septicæmia. The interest in this case lies in the fact that either the simple factor of rest in bed or the treatment with the vaccine had led to the disappearance of the gonococcus from the patient's blood stream, but that the lowered resistance entailed by the illness had left him unable to cope with the pneumococcus, and a second attack of septicæmia, due to a different organism, resulted in a fatal termination.

*Acute gonorrhœa.*—It is exceedingly difficult to estimate the value of vaccine treatment in acute gonorrhœa, for in the first place we have experienced a lamentable dearth of early cases. In the present series we have only two which came under observation during the first week of infection; in one the urethral discharge preceded the conjunctivitis for which the patient was admitted by about 36 hours only (probably both the urethra and conjunctiva had been infected on the same occasion four days previously), and in the other vulvitis and urethritis made their appearance some five days after admission for vague abdominal pains, at which date all the evidence of recent defloration was present. But whilst there is undoubtedly in man an inherent predisposition to successful auto-immunisation against the gonococcus, which in a certain small percentage of cases leads to rapid and complete cure without the intervention of either physician or surgeon, there is another type of case which is predestined to become chronic, and it is not until the defects in the mechanism which regulates the process of immunisation have become apparent and the chronicity is an established feature that these cases come under observation. Speaking generally, we are of the opinion that the immediate value of vaccine therapy in the first type of case is of negligible value, but in so far as its general adoption in all acute cases would probably reduce the numbers comprised in the second type, we are strongly in favour of the use of gonococcus vaccine in all cases of acute gonorrhœa.

The injection of a moderately small dose of vaccine (say 5,000,000) was in most cases followed by a definite train of clinical symptoms. 1. For the first 36 to 48 hours there was marked increase in the discharge, which sometimes was altered in character; increased pain on micturition and erection; slight general malaise; in other words, the patient appeared worse in all ways as a result of the injection. This phase is followed by (2) marked improvement, and frequently by complete disappearance of the discharge, decrease of pain, and general constitutional improvement. This stage lasted usually from three to four days, according to the dose injected; at the end of this time the discharge would gradually return. The injection of a further dose of vaccine at this stage would result in a repetition of the symptoms. Usually the discharge quickly became slight, thin, and watery; in some cases it disappeared for a short time after each injection, only to reappear in a few days. The temporary improvement would be so marked that patients repeatedly thought themselves cured before this happy result had been attained. In one instance, where considerable benefit seemed to be derived, whenever the discharge ceased for a few days the patient indulged in a drinking bout with the inevitable consequences; this happened on no less than three occasions.

The explanation of the symptoms that follow an injection of vaccine is readily appreciated from an inspection of the opsonic chart. An immediate negative phase is produced, lasting from 36 to 48 hours, followed by a rapid rise to a positive, which may reach 3 or 4 or even higher. The increased discharge, pain, and discomfort are noted during the negative phase, and the improvement follows the rising index; a recurrence of symptoms is noted in a few days, as the index again falls below normal. The larger the dose the more pronounced the negative phase, which may fall as low as 0·2 or 0·3, and the longer its duration; hence the danger of the larger injections.

The opsonic index of the average acute case, that is not doing especially well, shows many and rapid variations. The index will rise high above normal, commence to fall immediately, and a day or so later will be considerably below the normal line. This feature is no doubt due in the majority of cases to the lack of rest during the active pursuit of the patient's ordinary avocations—exercise resulting in repeated auto-inoculations, involving enormously toxic doses which are irregular in quantity, quality, and time, and giving rise to prolonged and extreme negative phases, accompanied by increased susceptibility to the inroads of the gonococcus. It is probable that great and rapid fluctuation of the index is the chief contributory factor to the tendency to chronicity, and we therefore regard such frequent and extreme variations as undesirable. Again, the opsonic chart of a patient receiving large doses at intervals of a few days shows similar rapid changes of index, and thus *the condition found in untreated cases that are not progressing favourably is artificially reproduced and affords a powerful argument against the use of large doses.* The small doses (from 500,000 to 3,000,000) are sufficient to confer all the benefits of the large doses and are unaccompanied by their corresponding disadvantages. The small dose is followed by practically no negative phase, and the positive phase, though not marked, is not delayed but comes on rapidly. A case thus treated, with the additional advantage whenever possible of rest in bed, rarely shows a high index (i.e., above 2), but, on the other hand, the negative phase is practically abolished. *Small doses, repeated at short intervals, steady the index, and possibly herein lies their chief value,* as the steadying of the index prevents a state of affairs which would prove detrimental to rapid recovery. Moreover, small doses can with safety be repeated at intervals of a few days, whereas a longer interval is necessary where larger doses are employed.

To these points we attach great importance; for example, we know no other therapeutic agent that will completely check an acute urethral discharge in this abrupt manner. *This and other considerations afford proof that the vaccine exerts a marked influence over the disease; that it acts rapidly and with a tolerable degree of certainty; and that it exerts a definite powerful influence on the local and general condition of the patient.*

We consider the ideal treatment to be as follows: The patient should from the first have absolute rest in bed, bland diet, plenty of fluid (e.g., from five to six pints a day of barley water or milk and soda), and a mixture that is both aperient and diuretic, containing also some urinary antiseptic, such as urotropin. No urethral injections should at first be used, for the drainage is excellent, and the constant flushing of the urethra by frequent micturition is sufficient. An autogenous vaccine should be prepared and the opsonic index taken daily; if large variations in the index are observed, these should be steadied by very small injections of vaccine, such as 500,000 to 1,000,000; if, however, the variations are small 2,500,000 may be injected. Under these conditions many cases rapidly convalesce. If, however, about the third or fourth week, the discharge has not ceased but appears likely to become subacute, other methods must be adopted. Thus, after the injection of a dose which previous observations on the case have shown will produce on the third or fourth day a well-marked positive phase that will last about three or four days, the index should be carefully watched, and as soon as it has reached its maximum point irrigation of the urethra with a very weak astringent and aseptic solution should be instituted. Usually the result of this procedure is little short of marvellous—the cure is complete before the index has fallen to normal. It is advisable, however, to give one or two more injections before terminating the treatment.

*Chronic gonorrhœa.*—Thirty-eight subacute and chronic cases have been under treatment. Of this number five were simple and the remainder were complicated with troubles other than urethral. Twelve cases were treated with vaccine prepared from the patient's organism, and the rest with stock preparations.

*Simple chronic gonorrhœa.*—A chronic urethral inflammation is not as a rule a simple infection. The ravages of the gonococcus over a long period leave the superficial and deeper layers of the urethral mucous membrane in a condition little calculated to resist the invasion of other organisms or to encompass the destruction of the gonococci themselves. It is not surprising to find that the presence of the gonococcus alone, in cases of chronic urethritis or cervicitis of nine months' duration or longer, is the exception rather than the rule. The organisms found, in addition to the saprophytic B. xerosis and its variants, in the order of the frequency with which they occurred in cases we have investigated, are as follows: (1) Staphylococcus albus, including a large variety of this organism: (?) S. gigas urethræ; (2) staphylococcus albus associated with gonococcus; (3) gonococcus alone; (4) staphylococcus albus associated with bacillus coli communis; (5) bacillus coli alone; (6) gonococcus associated with bacillus coli; and (7) bacillus influenzæ.

In the present communication we have limited ourselves to a presentation of those cases of chronic gonorrhœa in which the sole or the predominating organism in the urethral discharge was the gonococcus, leaving the consideration of secondary infections to some future occasion. Several of our cases were extremely chronic, and were the subjects of repeated infections. One man came with his tenth attack, and had not been free from gleet, with frequent exacerbations, for years. Another case of eight months' duration was the ninth attack. Yet another was of two years' standing; others of 18 months to two years. Now the time that the infection has persisted tells greatly against the patient. In the earlier stages the body has made strenuous efforts to throw off the disease; later, the local and general powers of resistance are lowered. The attempt to limit the area of infection has resulted in the shutting off of the inflamed tissues by exudative products, which in turn diminish the intensity of the stimuli transmitted to the immunising machinery, and so limit the output of antibodies and at the same time prevent the ready access of such antibodies as are formed to the area of infection. Under such conditions vaccine treatment should obviously be of value, for the introduction of dead bacteria, with their endo- and exo-toxins, into the tissues at a distance from the infected and infiltrated area, forcibly stimulates the formation of those anti-substances whose manufacture, owing to the reasons we have already set out, has been reduced to a minimum.

*Chronic gonorrhœa with complications.*—In some of our chronic cases complications arose during treatment; in others they were present when the patients were first seen. They comprise: (1) Iritis (four cases); (2) arthritis (25 cases); and (3) epididymitis and orchitis (four cases). Cystitis occurred in one case, but was transitory and quickly subsided. Although every case was of several months' duration the gonococcus proved to be the only pathogenic organism infecting the urethra. It is noteworthy that in the chronic cases in which complications arose the gonococcus alone was found in the discharge. It may be inferred from this that when a gleet has ceased to contain this organism complications, such as orchitis, epididymitis, &c., are not likely to arise.

*Orchitis and epididymitis.*—One of these cases is typical of all four. The patient was suffering from acute epididymitis when first seen. He was in great pain, could hardly walk, and looked extremely ill. The left epididymis was swollen and exquisitely tender. In view of the acuteness of the condition a small dose of stock vaccine (1,000,000 only) was injected, and the patient was told to return in three days. Examination then showed slight improvement and a further injection of 1,500,000 was given. Nine days later the man returned. He walked briskly and the drawn and haggard look was gone from his face. The testicle was practically normal and could be pressed with considerable force without causing pain. A remarkable feature is that during this time he took no rest but struggled about during the daytime as well as he was able. He stated that there was perhaps very slight increase of pain on the day following the first injection which was scarcely noticeable, but that within 24 hours he felt considerably better and rapidly improved without once looking back. Evidently with these small doses the negative phase was elided, or at all events was extremely slight and transient. A final dose of 1,000,000 was given a fortnight from the date of the first injection, and when last seen the improvement was maintained and the patient was perfectly well. It is most improbable that in the ordinary course of events the condition would have cleared up with such rapidity *when no rest whatever was being taken.*

*Arthritis.*—Practically all these cases were first treated—on the diagnosis of chronic rheumatism—with salicylates and other anti-rheumatic remedies and local applications of belladonna, &c., and only on the failure of these measures did the cases come under our observation. Frequently some slight pyrexia was present at first, but rest in bed or of the affected joint caused its early disappearance, but without any relief of the pain. The effect of vaccines was practically identical in all cases. In from 12 to 24 hours after the administration of doses of 5,000,000 or 10,000,000 the affected joints were subjectively more painful, and in many cases distinctly more swollen, red and tender, and movements more limited. These symptoms corresponded with the negative phase. In from 36 to 48 hours these symptoms cleared up, pain and tenderness passed off, and movements became much more free. Any urethral discharge that was present underwent the changes already detailed in connexion with simple acute gonorrhœa.

*Iritis.*—All these cases were transferred from the ophthalmic department of Guy's Hospital, where the diagnosis was originally made, to the vaccine department. On account of the importance of this uncommon complication we are tempted to give further details of these cases.

CASE 1.—The patient had suffered from gleet for ten months in this, his third, attack of gonorrhœa. The right pupil was dilated (atropine) and irregular; some chemosis; conjunctiva very injected, lacrymation; no purulent discharge, and the eye extremely painful. By the second injection the pain had almost disappeared from the eye, which in all ways appeared better. Ten days after the second injection the patient said that the eye had been free from pain for a week, for the first time for nearly six months. The earlier injections had the usual effect on the urethral discharge, which eventually disappeared. Treatment was carried out for two and a half months, and at the expiration of this time the iritis was cured and the sight was perfect.

CASE 2.—Present attack of gonorrhœa contracted five months ago. Three recurrent attacks of conjunctivitis (both eyes), but no pain or loss of sight. Present attack, left eye only, starting one month previously; great pain, congestion, and loss of sight. Conjunctiva very injected—ciliary injection; iris muddy; no reaction to light; pupil irregular—cornea hazy, with deposits in anterior chamber. Pain on admission very bad, and getting worse. Pain relieved within 48 hours of first injection—gone in four days; sight returning—eye steadily improving; patient feels better in general health two or three days after each injection. No relief of pain prior to vaccine, whilst under treatment by fomentations and atropine.

CASE 3.—Present attack of gonorrhœa contracted one month before commencement of iritis. Lids injected and swollen, muco-purulent discharge, but gonococci absent; conjunctiva injected; chemosis; cornea healthy. 11 days after admission arthritis of knee and elbow. Iritis well and patient discharged cured in a month from first vaccine inoculation.

CASE 4.—Patient admitted with "cold" in the right eye; marked conjunctival injection; discharge; very severe pain—especially at night; cornea cloudy, pupils dilated, iris dirty coloured; condition getting worse. One month from date of admission eye greatly improved; no discharge, iris clear; no conjunctivitis; cornea clear. Pain relieved after first injection; cured after the second.

## SUMMARY.

I. *Acute gonorrhœa.*—1. Gonococcus vaccine is markedly toxic and exerts a profound influence over the disease.

2. For routine work (hospital out-patients, &c.) vaccine treatment is not devoid of danger and requires the exercise of considerable caution.

3. A stock vaccine, comprising a dozen different strains, gives results only slightly inferior to those observed when using a vaccine prepared from the patient's own organism. This is not the rule in most other diseases.

4. Small doses, repeated at short intervals, are more effective than large doses at lengthened intervals.

5. Small doses of vaccine (from 1,000,000 to 10,000,000) are safer and more satisfactory than the large doses (from 50,000,000 to 100,000,000) which are often prescribed.

6. After an injection of from 500,000 to 2,000,000 the negative phase is either absent or extremely transient.

7. An inoculation of from 5,000,000 to 10,000,000 causes a negative phase of usually not longer than 48 hours' duration, followed by a positive phase of from three to five days.

8. Vaccines in *small* doses serve the double purpose of *raising and steadying* the opsonic index. A steady index just above normal is found to be the most favourable condition for rapid recovery.

II. *Simple chronic gonorrhœa.*—1. Where the gonococcus has ceased to be the infecting organism these cases are on a par with other chronic inflammatory states, but are frequently

more difficult to cure owing to environment and local conditions.

2. Chronic cases where the gonococcus is the sole infecting organism have a better prognosis from the point of view of treatment by vaccine than a mixed infection or one of staphylococcus only.

III. *Chronic gonorrhœa with complications.*—1. The estimation of the opsonic index is helpful to diagnosis and is a useful means of determining *approximately* the opsonic state of the blood. Chronic gonococcus infections, however, present clinical features which themselves afford valuable indications during the course of vaccine treatment.

2. Where the gonococcus alone is the infecting organism, if the opsonic index cannot be obtained as frequently as is desirable, routine injections of from 1,000,000 to 2,000,000 doses every three to five days are safe and satisfactory; a lapse of five to seven days after doses of 5,000,000; an interval of eight to ten days after inoculation of 10,000,000. Larger doses than these are seldom desirable.

3. Treatment by small and gradually increasing doses at frequent intervals should at all times be observed; the use of large doses is even more dangerous than in acute cases, and may be followed by disastrous consequences.

4. In orchitis small doses of vaccine quickly relieve pain and cause a more rapid abatement of symptoms than obtains by the usual routine treatment alone.

5. In iritis the severe pain, which is a marked and obstinate feature, is relieved in 48 hours after an injection, and disappears in from three to four days; cure is much hastened.

6. In arthritis the treatment is of considerable value.

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## THREE CASES OF DELAYED CHLOROFORM POISONING.

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BY the kindness and courtesy of Mr. P. MacGregor and Mr. J. G. Rowell I have been permitted to publish the notes on these cases, which, taking into consideration the cases which have been published recently, are not, I think, without interest.

CASE 1.—A girl, aged four years, was admitted to the Huddersfield Infirmary for operation for genu valgum, which was performed on the afternoon after her admission, and which consisted in a single osteotomy of the femur. The child appeared to be healthy and in good condition at the time. The anæsthetic used was the A.C.E. mixture, of which about six drachms were administered. The patient was returned to bed about 3 o'clock in the afternoon, and her progress was very satisfactory until about 4 o'clock on the following morning, when she vomited a large quantity of fluid. Nothing special was noticed, and the patient again fell asleep. At 8 o'clock, four hours later, she vomited again; this time the vomit was typical "coffee ground," and the constitutional disturbance was very considerable; the pulse became fast and weak, and the child was comatose. From this time onward the condition was that of "dulness alternating with apathy." The pulse became very rapid, in fact, quite uncountable, the respirations were hurried, and the temperature gradually rose, until before death 20 hours later it had reached 106° F. There were slight distension of the abdomen and some tenderness, and very slight yellow tinging of the skin. The pupils were very variable, sometimes dilated and sometimes contracted, and the corneal reflex was nearly always present. The persistent vomiting was a marked feature; in fact, everything that was taken by the mouth was returned immediately. The urine, of which only about one ounce could be obtained, showed a marked reaction to the acetone test—i.e., sodium nitroprusside and ammonia.

The treatment consisted in a large draught of sodium bicarbonate in water at the commencement, after which stimulants were tried, champagne and brandy, but nothing was retained. Dextrose as suggested by Dr. A. P. Beddard was also given and saline solution was administered by the rectum together with sodium bicarbonate; saline infusion subcutaneously seemed to have not the slightest effect on the downward progress. I would like to call attention to the small amount of chloroform used, and also the effect of the different forms of treatment suggested. A post-mortem examination was not permitted.

CASE 2.—The patient, aged 26 years, was admitted with symptoms of ovarian cyst with twisted pedicle. The operation was performed a few hours after admission and consisted in removal of the cyst which was slightly adherent to the intestines. On the following day her progress was satisfactory. The patient had slept well and she felt well, except for some slight vomiting after the operation. On the following evening—24 hours after the operation—my attention was called to the small quantity of urine passed, only about 16 ounces since the operation; a catheter was passed but no urine was found in the bladder. On the following morning, the patient was distinctly jaundiced and the general condition was not good. About 10 A.M. she vomited a large quantity of "coffee-ground" fluid. The stomach was then washed out and some saline and sodium bicarbonate solution was left in. The patient's condition seemed to improve. Plenty of fluid was given and was retained; five grains of calomel were also given. The patient again vomited at about 10 P.M. and from that time onward her condition was gradually getting worse. There was not much vomiting, but gradually becoming weaker she died at 2 o'clock on the following morning—60 hours after the operation and 14 hours after the first appearance of the "coffee-ground" vomit, so distinctive a feature of these cases. The temperature had never risen above 99° F., the pulse had gone up to 160 per minute, and the respirations had been normal. The urine, of which about four ounces had been obtained after the symptoms had set in, had given no reaction to the acetone test.

A limited post-mortem examination was made. No peritonitis was found. The specimens, which were kindly examined for me by Dr. Gough, showed the following points of interest. (*a*) The liver showed very characteristic changes. The centres of the lobules were quite disorganised, the cells were nearly all necrotic, and much brown pigment was present, and the peripheral parts of the lobules were in a state of advanced fatty degeneration. (*b*) The spleen showed little change except that many of the cells contained brown pigment granules. (*c*) In the pancreas the gland cells showed degenerative changes. No trypsinogen granules were present, but numerous fat globules were found in the protoplasm. (*d*) In the kidneys the glomeruli were normal and the cells of the convoluted tubes were in some places in a state of advanced fatty degeneration and in others broken down into the lumen. (*e*) In the heart the fibres had almost lost their striation and were filled with fine fat droplets. The condition was not patchy, as in fatty degeneration usually found in anæmic states, but every cell was affected.

CASE 3.—A male patient, aged 18 years, was admitted for operation for appendicitis. The operation was performed on the same evening. The appendix was removed and a small abscess cavity was drained. The progress of the patient was all that could be expected for more than three days, when—80 hours after the operation—I was called to see him, severe collapse having set in, and he had just vomited a large quantity of "coffee-ground" fluid. On the next morning the skin was distinctly yellow in colour. The general condition was very similar to that of the last case. A fair quantity of fluid was retained, the vomiting not being very frequent. The pulse rose from 80 per minute at the onset of the vomiting to 130 immediately before death, which occurred nine hours after the onset. The temperature rose to 102° F. from the 99° at which it stood when I was first called to see the patient.

A limited post-mortem examination was made. No general peritonitis was present, but owing to an accident all the specimens except that of the liver were lost. The urine gave a negative result to the acetone test. Dr. Gough's report on

the liver was as follows: "The section of the liver was seen to be extensively diseased. The centres of the lobules were disorganised, no appearance of liver tissue remained, being replaced by cell débris and altered blood pigment; the periphery of the lobules showed hepatic structure, but the cells were in an advanced state of degeneration."

The anæsthetic used in Cases 2 and 3 was chloroform, and no difficulty was experienced in its administration.

Huddersfield.

## NOTES OF A CASE OF SPLENECTOMY FOR INJURY.

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*With a Report on the Condition of the Blood by* J. MILL RENTON, M.B., Ch.B. Glasg., *Extra-Dispensary Surgeon, Western Infirmary, Glasgow.*

THE patient, aged 14 years, was sent to me at the Western Infirmary by Dr. T. W. Love of Airdrie on Dec. 17th, 1907, with a history of having been knocked down and run over by a van 24 hours previously. On examination the patient was found to be very anæmic, restless, pulse 130, with great pain and tenderness and rigidity over the left half of the abdomen. It was quite evident that some serious injury had taken place and that hæmorrhage was going on rapidly. The abdomen was opened in the middle line and was full of blood. On passing the hand in the spleen was found to be ruptured. A small transverse incision was made to the left, the pedicle secured, and the spleen removed. It was torn across at the hilum so that the hæmorrhage was considerable. After the blood was removed from the abdominal cavity the incisions were closed.

The patient progressed favourably until Dec. 23rd, when he complained of abdominal discomfort, and it was evident that a certain amount of fluid had collected; a couple of stitches were removed and one and a half pints of fluid were evacuated, which was found to be sterile. On the 25th he complained of pain in the right side of the chest, the respirations were rapid, there was dulness at the right base, and 22 ounces of sterile fluid were drawn off. He continued well until Jan. 18th, when the temperature went up, and on examination dulness was found immediately below the right scapula. Exploration showed pus, and the chest was opened, a considerable amount of purulent fluid being evacuated, a cultivation from which gave a growth of pneumococcus. He gradually improved and went home early in March.

The counts were made by means of a Thoma-Zeiss hæmacytometer, the hæmoglobin being estimated by Gowers's hæmoglobinometer and T. W. Tallqvist's hæmoglobin scale, which was found to give approximately the same results as Gowers's instrument. The films were stained with Jenner's stain, and about 1000 corpuscles were counted in each film. The division of lymphocytes into small and large is only very approximate, as many intermediate forms were present. The above table shows the principal changes in the blood. The red blood corpuscles and hæmoglobin fell to their minimum 11 days after operation, and since then have gradually risen to normal. There was a marked polymorphonuclear leucocytosis for some weeks after operation. The most striking feature, however, has been the gradual increase in the relative number of the lymphocytes, and apparently fully a year after operation they were still increasing. Whether this condition will remain permanently or whether it is only a temporary phenomenon remains to be seen. D'Este Emery,[1] however, in his cases, has found that at the end of three years the lymphocytes still represent 43·25 per cent. of the white cells, so that, if not permanent, the condition is at any rate of considerable duration. With the exception of a few mast cells nothing else of any note was observed in the blood.

The above case is of considerable interest as illustrating the importance of removing the spleen, not trusting to packing or stitching, and also the large amount of blood which may be lost and yet complete recovery takes place. The collections of the sterile fluid, both in the abdomen and the chest, have not often been noted, but in THE LANCET[2] Mr. Sinclair White of Sheffield records a case in which sterile fluid collected in the abdomen after an operation on the stomach. The patient has recovered without any glandular enlargement. The examinations of the blood, which have been carefully carried out at regular intervals for a year, are of special interest.

Glasgow.

*Blood Examination.*

| Dec. 26th, 1907 (7 days after splenectomy). | Dec. 30th, 1907. | Jan. 10th, 1908. | Feb. 20th, 1908. | May 15th, 1908. | Oct. 27th, 1908. | Jan. 13th, 1909. |
|---|---|---|---|---|---|---|
| Hb = 55% | 40% | 45% | 70% | 90% | 90% | 95% |
| R.B.C = 3,500,000 | 2,160,000 | 2,800,000 | 4,000,000 | 5,000,000 | 5,040,000 | 5,600,000 |
| W.B.C = 40,560 | 28,000 | 27,000 | 10,920 | 10,500 | 10,000 | 9,360 |
| Polymorphs = 89·5% | 86·9% | 83·3% | — | 49% | 48·6% | 38·7% |
| Lymphocytes = 9·9% | 12·3% | 15·7% | — | 46% | 48·6% | 58·3% |
| ,, small = 4% | 4·6% | 7·5% | — | — | 36·2% | 44·3% |
| ,, large = 5·9% | 7·7% | 8·2% | — | — | 12·4% | 14% |
| Eosinophils = 0·3% | 0·3% | — | — | 4·5% | 1·58% | 2·4% |
| Myelocytes = 0 | 0·1% | 0·1% | — | — | — | — |
| Nucleated reds = 0 | 0·1% | 0·1% | — | — | — | — |
| Mast cells = 0 | — | — | — | 0·7% | 0·7% | 0·4% |

## AN UNUSUAL CASE OF GOITRE.

BY H. NEVILLE CROWE, M.B., B.CH. BIRM., M.R.C.S. ENG., L.R.C.P. LOND.,

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I AM kindly permitted by Sir Thomas Chavasse to publish the notes of the following interesting case, and to these notes Sir Thomas Chavasse has appended remarks.

The patient, a married woman, aged 54 years, was sent to the General Hospital by Mr. P. A. Docherty of Burton-on-Trent on June 11th, 1908, suffering from cellulitis of the neck and dyspnœa due to a goitre of the size of a clenched fist. The patient stated that the goitre was first noticed when she was 17 years old, and was treated with iodine and other counter-irritants until she was 32, and then, acting on the advice of her medical attendant, she was admitted into the Ear and Throat Hospital, Golden-square, London, under the care of the late Sir Morell Mackenzie. She remained in hospital for four months. The goitre was tapped and four ounces of fluid were withdrawn, but a subsequent tapping a fortnight later was negative. After an interval of 14 days some tincture of iodine was injected into the substance of the growth. This produced much constitutional and local disturbance, and when a subsidence had taken place a seton which she describes as a "tube and key" seton, was introduced into the middle line of the neck, and remained *in situ*

[1] THE LANCET, June 22nd, 1907, p. 1696.
[2] THE LANCET, Jan. 23rd, 1909, p. 235.

for five weeks. As this caused no diminution in the size of the swelling she was recommended to return home, as the case was deemed incurable. Since leaving the hospital, 22 years ago, the sinus made by the seton had been continually discharging, and she had been subject to what she describes as "shivering fits." These always came on in the morning, the patient feeling at first very cold and shivering, followed in about an hour by a profuse sweating stage with vomiting lasting a further hour and then by 48 hours of extreme prostration. She stated that she had had as many as two of these attacks in a fortnight, and they were worse just before her menstrual periods. She noted that the attacks always came on when the discharge from the goitre ceased and were followed and relieved by a discharge of blood and pus from the sinus.

On admission there was a large swelling in the neck extending from the level of the upper border of the thyroid cartilage above to the top of the sternum below; it was very fixed and apparently adherent to the cervical tissues. In the middle line, about the centre of the swelling, there was a sinus, into which a probe passed for about two and a half inches and from which there was a constant purulent secretion. The skin around was red and œdematous. There was no dyspnœa when the patient was at rest in bed, but it became evident when she walked about. The various organs of the body were healthy. The patient was treated with hot boric fomentations, and as a soft fluctuating area formed just below the old sinus an incision was made and a few drachms of pus were evacuated.

*Operation.*—On June 25th the following operation was performed. A horseshoe-shaped incision was made through the skin, commencing at the anterior edge of the right sterno-mastoid muscle at the level of the hyoid bone, carried forward to the middle line and then downwards, terminating on the right clavicle two inches external to the sterno-clavicular articulation. The skin flap thus marked out was dissected back with difficulty owing to its being adherent to the goitre. The thyroid tissue was very vascular and was firmly adherent to the trachea throughout its course, and it was only separated with great difficulty by dissection. The pedicles containing the superior and inferior thyroid arteries were secured and ligatured with cat-gut before division. The trachea was found to be much flattened from before backwards. After removal of the infected skin around the sinuses the wound was closed with silkworm-gut sutures, a drainage-tube being inserted at the lower part and the wound packed with iodoform gauze very lightly. With the exception of two stitch abscesses, the wound healed by first intention, and on July 24th the patient was discharged. When last seen on Nov. 6th the wound was soundly healed, the patient seemed in excellent health, and she reported that she had had no shivering fits since the operation.

*Examination of the tumour.*—In the middle of the thyroid tissue there was a cyst of the size of a hen's egg with thickened walls and calcareous lining, the contents of the cyst being purulent.

*Pathological report by* Mr. FRANK BARNES, *Visiting Clinical Pathologist.*—Macroscopically the whole gland is apparently composed, firstly, of a very much thickened capsule, varying in thickness from a tenth to a quarter of an inch; secondly, of the gland substance which is hollowed out into a cyst having two openings on the anterior surface, one at the lower pole and one about the middle. The gland substance itself is placed mainly on the posterior wall of the cyst and is hard in consistence and traversed by yellowish bands of calcareous substance and having small yellowish areas of a similar nature, but in places softer. Much fibrous tissue runs through the gland substance, rendering it almost cartilaginous in consistence. Microscopically the specimen is for the most part composed of a thick-walled cyst. The wall of the cyst is in places composed of the thickened capsule of the gland, but in the deeper portion glandular substance showing much fibrosis and considerable small-celled infiltration projects into the lumen of the cyst, while here and there calcareous degeneration has set in. A portion of the wall of the cyst shows well-marked tubercles, the giant cell system being particularly well marked.

*Remarks by* Sir THOMAS CHAVASSE.—The case presents several points of interest. In the first place the method of treating bronchoceles by using a seton does not appear to have been quite extinct 22 years ago. In this instance it induced a chronic septic condition, with acute exacerbations at frequent intervals, and it is somewhat remarkable that the patient's general health did not suffer more, but during the greater portion of the 22 years she admitted that existence had hardly been endurable. Examination after removal showed that at no time could the drainage of the contained cyst have been efficient, the opening in its lower part being made after admission to the hospital, and that nothing but complete extirpation could bring about a radical cure. Probably operative measures would have been sought for at a much earlier date, but several medical opinions were expressed that the thickness and the induration of the cervical tissues, the apparent hardness of the goitre, together with the age of the patient, were suggestive that a malignant neoplasm, involving the trachea, had to be dealt with, and that excision could not be safely accomplished. The operation was admittedly much more difficult than an ordinary thyroidectomy, mainly owing to the firm adhesions to the rings of the trachea which existed throughout. The microscopic report bears evidence that degenerative changes of a mixed type were taking place in the tumour, the precise clinical significance of which will only be evident in the future.

Birmingham.

## A MODIFIED PLAN FOR THE PREPARATION OF CHROMIC CATGUT.

BY CHARLES H. CHRISTAL, L.R.C.P. & S. IREL.,
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So many different methods have appeared within the last few years for the efficient preparation of catgut as a surgical ligature, most of which for various reasons have been discarded, that I trust I may be excused for adding yet another to the already long list of methods.

The claims of catgut as a surgical ligature were ardently supported by Lord Lister, to whom in the main its present-day popularity is due. The fact that it is absorbable by the living animal tissues is another factor in its favour, for having fulfilled its duty it disappears; and so the danger of subsequent irritation and infection due to the presence of a non-absorbable ligature which acts as a foreign body is eliminated. But catgut itself as it appears on the market in the raw state is a somewhat dangerous material if due precautions are not taken to render it sterile. Even when it is rendered sterile it may in itself induce suppuration when buried in healthy tissues. Many methods have been employed for sterilising catgut, but each of them has some disadvantages. The fact that catgut is rendered *sterile* does not necessarily make it a perfectly safe material for ligature. It has been noticed that absolutely *aseptic* catgut, when introduced into a wound, has the power of exciting suppuration. According to Ewald, this is due to some unknown toxic substance.

It appears rational to incorporate with the catgut some substance which acts as an antiseptic in itself, but such substance, exercising its antiseptic action, must have no deleterious effect on living tissue. If, for example, a ligature is prepared with corrosive sublimate its introduction is followed by coagulation of the albumin, and finally, necrosis of the tissue, which forms an excellent pabulum for micro-organisms, in the event of their being present. Though this local necrosis is only microscopic, it occurs, and as we never can be certain that organisms are not introduced into the wound during the course of an operation, the fact is obvious that its use should be discarded. The same applies to all the different antiseptics which are used in the preparation of catgut, such as formalin, carbolic acid, the different salts of mercury, &c.

The above-mentioned remarks do not apply so much to such materials as silk, silkworm gut, linen thread, and celluloid hemp. These ligatures are easily rendered sterile by boiling, and their subsequent sterility depends on their being kept immersed in an antiseptic fluid. Once they are *in situ*, providing due aseptic precautions are taken, they give rise to no further trouble. Not so with catgut. Besides its property of exciting suppuration as mentioned above, during the process of absorption, it may, if not sterile, liberate pathogenic microbes. Too much stress cannot, therefore, be placed upon the desirability of using an antiseptic catgut, as has been especially urged by Professor C. Yelverton Pearson of Cork and the late Nicholas Senn of Chicago.

What antiseptic then can we incorporate with catgut which will be non-injurious to the tissues, will not interfere with its strength or pliability, and yet is of such penetrating power as to destroy any micro-organisms which may lie on the surface, or may be embedded in the interior of the gut? Such a substance we have in thymol. Thymol is a most powerful antiseptic and resists putrefactive processes to a remarkable degree; one grain in two ounces of water stops putrefaction. It is non-irritating to the tissues when incorporated with catgut in the way mentioned below. Thymol ($C_6H_3 \cdot OH \cdot CH_3 \cdot C_3H_7$) is a crystalline phenol obtained from the volatile oils of *Thymus vulgaris*, Linn., *Monarda punctata*, Linn., *Carum copticum*, Benth. and Hook, and other plants. It resembles carbolic acid, has greater germicidal power, and is less irritating to wounds.

*Author's method.*—Ordinary glass tubing two-fifths of an inch in diameter and of good thickness is cut into three-inch lengths with a file and the edges rounded off in the flame of a Bunsen burner. A piece of tubing this size easily holds a thread of catgut ten feet long as commonly sold. The gut is wound in a single layer on the tubes, not too tightly, taking care not to twist or unravel it, and secured at both ends by the "first stage" of a "surgeon's knot." A piece of fine silk or cotton thread is then run through the tube and knotted outside. This facilitates the subsequent handling of the catgut in transferring it from one solution to another. It is then placed in a 1 in 1000 solution of chromic acid for 48 hours, when it becomes a rich brown colour. It is then transferred without washing to a jar containing ordinary sulphurous acid. The catgut lies in this for a further period of 24 hours, when it assumes a greenish hue. From the acid the gut is finally placed in methylated spirit made up to 1 per cent. with thymol (approximately 4½ grains of thymol to the ounce of spirit). For the whole process I used three 12-ounce bottles, such as are commonly used for the dispensing of tabloids in bulk. The mouths are wide and stoppered with cork. The threads, each fastened to a tube of catgut, are left hanging out of the mouth of the bottle, which is then stoppered with its cork. Extensive bacteriological examination of catgut prepared in this way shows it to be free from organisms. Experiments were made as follows. Catgut was cut into two-inch lengths, soaked in normal saline solution, and when soft gently unravelled. A virulent culture of anthrax bacilli and spores was rubbed into the substance of the gut, which was then allowed to dry. The infected catgut was placed in the chromic acid solution and then transferred to a gelatin Petri dish. Colonies grew with great profusion. Some gut was placed in chromic acid solution, then in sulphurous acid, and then into gelatin. This killed most of the bacilli, but did not seem to have much effect on the spores. Catgut was then put through the entire process, with the result that Petri dishes remained sterile. Other organisms experimented with—staphylococcus pyogenes aureus, staphylococcus pyogenes albus, streptococcus pyogenes, and pneumococci, the last two from virulent cases of peritonitis—gave like results. The catgut so prepared is sterile, antiseptic, very strong and pliable, and its tensile strength may be relied upon for at least three weeks. Another point in its favour is the cheapness and ease of preparation.

In conclusion, I wish to thank Professor Pearson for permission to use extracts from his readable little book, "Modern Surgical Technique."

*References.*—(1) Operative Gynæcology, Kelly, vol. i., p. 14; and (2) Operative Surgery, Binnie, p. 621; (3) Modern Surgical Technique, Pearson.

LEPERS IN INDIA AND THE EAST.—The thirty-fourth annual report of the Mission to Lepers, which has just been issued, shows that during the year 1908, 7295 lepers came under the immediate notice of the society, which has 73 stations in different parts of the East. Some 600 children of leprous parents are being educated in the homes of the society, and as these children as yet show no symptoms of the disease the society is doing really beneficent work in looking after them and keeping them from possible contamination. The expenditure of the society for the year was £28,882, of which £8638 were received abroad mainly in grants from the Indian Governments. Donations should be forwarded to the secretary, 38, Henrietta-street, London, W.C

# Reviews and Notices of Books.

*Surgery, its Principles and Practice.* By Various Authors. Edited by WILLIAM WILLIAMS KEEN, M.D., LL.D., Emeritus Professor of the Principles of Surgery and of Clinical Surgery, Jefferson Medical College, Philadelphia; and JOHN CHALMERS DA COSTA, M.D., Professor of the Principles of Surgery and of Clinical Surgery, Jefferson Medical College, Philadelphia. Volume IV. With 582 illustrations, 22 of them in colours. London and Philadelphia: W. B. Saunders Company. 1908. Pp. 1194. Price 30*s.* net.

WE are glad to see another volume of this valuable System of Surgery. The first chapter deals with hernia, and it is from the pen of Dr. W. B. Coley of New York. He tells us that he has met with only 39 cases of direct inguinal hernia out of 1950 operations, and that he considers it probable that in the vast majority of inguinal hernias in the male, and practically all in the female, the sac is preformed, and there is no doubt that surgical opinion is inclining very much in this direction. Direct hernias are much rarer than used to be thought. For the radical cure of femoral hernia Dr. Coley prefers a purse-string suture which brings into apposition the roof and floor of the crural canal, and the femoral opening is thus completely obliterated. The article is good and is very rich in illustrations. Dr. R. Abbe of New York is responsible for the chapter on the surgery of the rectum and anus. It begins with a useful account of the anatomy of these parts, but we must protest against the statement that "the fetal development of the rectal structure is from the external epithelial layer of the ovum." The treatment of hæmorrhoids is well described, but the illustration representing Whitehead's operation could convey no definite idea of the operation to anyone not acquainted with it. A good account is given of the various methods of removing rectal growths, but, curiously, nothing is said of the abdomino-perineal operation.

The importance of a thorough examination of the urine before operation in many cases is recognised in this work by the devotion of a special chapter to this subject, written by Dr. D. L. Edsall of Philadelphia, and it is very carefully written, not too much being claimed for urine analysis, but a just appreciation of its importance being shown. Dr. J. Ransohoff of Cincinnati commences his account of the surgery of the kidney and the suprarenal gland by a description of the anatomy, and then he describes the means and methods of examination. He considers that urinary segregation is to be preferred as a routine practice to ureteral catheterisation, for it requires less experience and can do less harm; but he thinks that it is less accurate. As to the value of operation in chronic Bright's disease Dr. Ransohoff says that if the operation is ever justified it should be limited to cases in which pain is a marked symptom or in which profuse hæmaturia or anuria threatens life, and the operation should be limited to capsulotomy.

Dr. Bransford Lewis of St. Louis has supplied the section on the surgery of the bladder. In vesical tuberculosis the local treatment which he considers to be of most value is the injection of iodoform emulsion in liquid vaseline, but he has found that the use of air for cystoscopy in tuberculous bladders has been followed by steady improvement, and though iodoform injections were being employed at the same time he is inclined to think that the admission of air exerted a beneficial influence akin to that seen in cases of tuberculous peritonitis, where simply opening the peritoneal cavity is followed by amelioration. Stone in the bladder forms the subject of a separate chapter, written by Dr. A. T. Cabot of Boston. An excellent description is given of the various methods of removing stone. The author says, speaking of

Bigelow's operation: "It is rare, indeed, now for a surgeon to plan the crushing of a stone without including in his operation the immediate evacuation of the fragments." We are surprised to hear that it is ever done, and we should be interested to know of any surgeon who has operated in this way during the last ten or 15 years.

The vexed question of the best method of removal of a hypertrophied prostate is discussed fairly fully by Dr. H. A. Young of Baltimore, who writes on the surgery of this organ, and points out that Fuller's operations of complete prostatectomy by the suprapubic route formed a precedent in surgery. The conclusions at which the author arrives with regard to the relative merits of the operations are that perineal prostatectomy is the safest operative procedure, and that in many cases it is the only method applicable, such as those in which the growth does not project into the bladder, those in which there is marked fibrosis, and those associated with carcinoma. Dr. Young claims that the mortality of the perineal operation is practically *nil*. Dr. O. Horwitz of Philadelphia has dealt with the surgery of the urethra and penis and describes his operation of external urethrotomy in which he uses his dilating guide. This is a modification of the operation invented by Wheelhouse, and is very little known in this country, but appears to be likely to be useful in suitable cases. Dr. A. D. Bevan of Chicago has written on the surgery of the scrotum and testis. He gives a full account of an operation for replacement of ectopic testis, which he has invented, and of the 34 cases in which he has operated 30 were completely successful. The point which he considers to be of the most importance is complete removal of the peritoneal pouch, which always, he says, exists in the cord; when this pouch is removed it is almost always possible to bring the testis to the bottom of the scrotum.

The surgery of the intestine has been contributed by Dr. W. van Hook and Dr. Allan B. Kanaval of New York. We need only say that it is representative of present-day practice, that it is well illustrated, and that we quite agree with the writers, when speaking of the methods of intestinal anastomosis, that the simplest forms of suture are preferable, and that extensive practice in the use of a few sutures will give much greater skill in their application. The article by Dr. J. B. Murphy of Chicago on the surgery of the vermiform appendix is almost all that could be wished. He is very strongly in favour of the value of rectal irrigation in general suppurative peritonitis, and we concur in this opinion. We may point out, however, that on the same page he has two different statements as to the quantity of saline solution to be employed; in one place he says that a pint and a half should be administered every two hours, and in the other that a pint and a half should require not more than 60 minutes to percolate into the bowel. It is possible that he means that an hour's rest should be given, but it is not clear. We do not quite agree with Dr. Murphy in his section on the time for operative interference, but this is still a debatable matter.

Dr. E. B. Dench of New York has contributed the chapter on the surgery of the ear, and especially worthy of mention is the account of the treatment of suppuration in connexion with the middle ear. Dr. Schweinitz of Philadelphia has supplied the article on the surgery of the eye. He is inclined to agree with Römer that sympathetic ophthalmia is produced by an infection caused by the blood stream, the infecting agent being some form of micro-organism pathogenic for the eye and not affecting the body generally. This chapter includes the removal of tumours and cysts from the orbit, and also blepharoplasty.

The surgery of war is divided into two parts—military surgery by Surgeon-General R. M. O'Reilly, and naval surgery by Surgeon-General P. M. Rixey. There is much that is common in these two parts, but there are differences. Wounds from small-bore weapons are rare in sea fighting nowadays, and the wounds are on the whole much larger than in those received in land warfare. The other difference is in administration, and this difference is of vast importance, and a very good description is given in this volume of the chief arrangements made for treatment of the sick and wounded, both in the army and navy of the United States. Tropical surgery is dealt with by Dr. W. D. McCaw, and Dr. W. L. Rodman of Philadelphia has written a chapter on the influence of race, sex, and age on surgical affections. The races mainly considered are the negro and North American Indian, as contrasted with those of European descent. Dr. Rodman believes that the negro is more liable to some diseases than formerly, such as cancer and tuberculosis; and this seems especially true of the negro in the more northern States.

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*Klinische Beiträge zur Lehre von der Hysterie, nach Beobachtungen aus dem Nordwesten Russlands. (Clinical Contributions to the Study of Hysteria, from Observations made in the North-West of Russia.)* Von Dr. GEORG VOSS, *Privat-Dozent* für Psychiatrie und Neurologie an der Universität Greifswald, Oberarzt an der Psychiatrischen und Nervenklinik. Jena: Gustav Fischer. 1909. Pp. 300. Price 6 marks.

THIS is a useful contribution to the study of hysteria if it only affords one more proof that no place or nation is exempt from this widespread malady. Thomas Sydenham expressed this well when he said in 1670: "Of all common diseases, hysteria, unless I err, is the commonest. ..... As to females, if we except those who lead a hard and hardy life, there is rarely one who is wholly free; and females, be it remembered, form one half of the adults of the world." Dr. Voss's studies are based chiefly on 123 cases of hysteria (under the care of Dr. Rybalkin) which he observed in that part of the Marien Hospital of St. Petersburg which is devoted to neurology, and they go to show that the character and symptoms of hysteria are very much the same in the North-Western part of Russia as elsewhere. In the course of his studies the author has added cases which were observed at the Psychiatrical and Neurological Hospital in Greifswald (Pomerania, Germany), under the care of Professor Ernst Schulze.

The first chapter discusses the various conceptions which have been held regarding hysteria—physiological, physiologico-psychological, and psychological. The author is quite right in stating that the modern study of hysteria dates from the middle of the nineteenth century, and that its study has passed through the three phases just mentioned, though, as a matter of fact, no very material advance has been made, owing to the absence of accurate anatomical data, and the difficulty of gauging these evanescent phenomena. In successive chapters the occurrence and causes of hysteria, derangements of sensation, alterations of the superficial and deep reflexes, disorders of the special senses, vasomotor and trophic troubles, motor disturbances, hysterical attacks, psychic disorders and their legal bearing, diagnosis, prognosis, and therapy are dealt with. The medico-legal aspect of hysteria is one of the most interesting chapters in the book. Here the author discusses the legal aspect of dual consciousness and of the "wanderings" to which hysterical patients are liable. Several interesting cases are quoted, though in a few instances it is a question whether the diagnosis of hysteria would be endorsed by every observer. A case, for instance, is mentioned on p. 203 of a man, aged 46 years, a drunkard, who had often been prosecuted, who had suffered from short attacks of mental confusion and became quite ignorant of time and place, who also had concentric diminution of the field of vision, central scotoma, and severe pain along the course of the nerves. Some might be inclined to regard this

case as due to the various central and peripheral nerve disorders consequent on alcoholic poisoning. Loss of memory, at first intermittent, is one of the commonest forms of alcoholic mental defect.

One of the most valuable features of this book is the brief but as a rule accurate summary of current writings on hysteria, and a bibliography of no fewer than 870 references, drawn from different countries, but more especially those written in the German language, is given at the end. The author has evidently had access to current English writings on the subject, and he quotes from important contributions to our columns, but he has not included among the English classics the writings of Brodie, Todd, and Paget, and among the French, the work of Paul Briquet which remains for all time a monument of painstaking, accurate clinical observation and analysis.

In spite of these minor criticisms, however, we congratulate Dr. Voss on his diligent and painstaking studies.

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*A Manual of Medical Treatment, or Clinical Therapeutics.* New edition. By I. BURNEY YEO, M.D. Lond., F.R.C.P. Lond., Emeritus Professor of Medicine in King's College, London, &c.; RAYMOND CRAWFURD, M.A., M.D. Oxon., F.R.C.P. Lond., Physician to King's College Hospital, &c.; and E. FARQUHAR BUZZARD, M.A., M.D. Oxon., F.R.C.P. Lond., Assistant Physician to the Royal Free Hospital, &c. In two vols. London, New York, Toronto, and Melbourne: Cassell and Co., Limited. 1909. Pp. 802 and 829. Price 21*s.* net for the two volumes.

SINCE its first appearance in 1893 Dr. Yeo's book has gained for itself the position of a classic. Its general plan and the method of its execution are too well known to need much further reference in the case of this, the fourth edition. It is distinguished from its predecessors (of which the last was issued in 1902) by the fact that the names of Dr. Raymond Crawfurd and Dr. Buzzard appear with Dr. Yeo's on the title-page. The former "has undertaken the revision of the sections on digestive and circulatory diseases, as well as those dealing with diseases of the liver and kidneys," and the latter has assisted in revising the section on maladies of the nervous system.

In the section on digestive troubles we note a careful account of recent investigations as to the real value of feeding by enema; an insistence on the importance of the hygiene of the mouth; and increased attention to ulceration of the duodenum. The writers do not seem to be impressed with the boasted advances in gastric surgery made in recent years, as little is added to the remarks made in the last edition on this subject. In the chapters on diseases of the heart special attention is paid to diet, and a number of practical points are noted in regard to the application of remedies. In the neurological section the changes are naturally numerous owing to the progress of knowledge in this field. Dr. Buzzard has very adequately incorporated the various advances made in respect to treatment. Throughout this edition the data of pathology are more thoroughly presented than previously.

We hope that the welcome extended to this new edition may be such as to encourage the publishers to issue revised editions at fairly short intervals, since in these days of rapid progress seven years is a long period in the life of a medical book.

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*International Clinics.* Edited by W. T. LONGCOPE, M.D., Philadelphia. Vol. III. Eighteenth Series. London and Philadelphia: J. P. Lippincott Company. 1908. Pp. 298.

IN this volume one of the most useful contributions from the general practitioner's point of view is an article on the Nature and Treatment of Sciatica, by Sir Dyce Duckworth. He discusses the treatment of the disease and mentions the drugs which have yielded the best results. He concludes that patience, rest in bed, and warmth form the essentials of treatment, but indicates many directions in which careful therapeutics of a special nature are also of service. Dr. Paul L. Tinier describes the treatment of pertussis by fluoroform. He founds his experience on 117 cases. He states that in not a single instance did he observe any accident, however unimportant, imputable to the remedy, even when the dose prescribed was largely exceeded. All the cases recovered. The drug was used in the form of 2·8 per cent. fluoroform water, and Dr. Tinier speaks enthusiastically of its action, saying that he is almost inclined to speak of it as a "specific treatment." With regard to dose, he gives, up to the age of two years one drop after each attack the first day, two the second, three the third, and so on, without exceeding, as a rule, five grammes (100 drops) per diem of fluoroform water. Between two and four years he gives ten drops four times a day, and increases gradually up to five and ten grammes per diem. Above that age it is possible to go to 15 grammes and with adults to 30 grammes per diem, given in teaspoonful doses. As the remedy is not toxic he considers that these doses could be largely increased, but in the great majority of cases he has not found it necessary to give larger amounts. This remedy appears to demand a more extended trial.

Amongst other contributions to this volume are the following: Perforation of the Intestines in Typhoid Fever, by Dr. J. A. Scott (Pennsylvania); Adenoma of the Thyroid Gland, by Dr. J. P. Müller (Philadelphia); and Studies upon the Etiology of Appendicitis, by Dr. R. Kretz (Prague).

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*Précis de Pathologie Exotique.* Par E. JEANSELME, Professeur Agrégé à la Faculté de Médecine de Paris, Médecin des Hôpitaux; et E. RIST, Médecin des Hôpitaux de Paris, Ancien Inspecteur Général des Services Sanitaires Maritimes et Quarantenaires de l'Égypte. With 160 illustrations and two coloured plates. Paris: Masson et Cie. 1909. Pp. 809. Price 12 francs.

PROBABLY no branch of medicine during the last 25 years has made such rapid progress as that of tropical pathology and its associated bacteriology. The work under review is written for French medical practitioners at home and abroad. Its authors, from their well-known previous writings, based on their long experience of life in the Orient and in Africa, are shown to be in a position to deal thoroughly with their subject, while from laboratory research work they seem well entitled to demonstrate the most advantageous methods of tropical research to the student as well as to the busy practitioner. The therapeutic treatment and also prophylaxis of tropical medicine which have of recent years given such good results are fully discussed in this text-book, and it may be stated that all the most recent work done on these lines is fully and carefully described. We notice that the authors have embodied in their work their appreciation of the labours of members of the British profession, such as Manson, Bruce, Ross, Leishman, and others. They recognise the importance of recent observations made on sleeping sickness, Malta fever, and kala-azar, and in the case of the two latter diseases point out that the dangers of their spread to France are very obvious. In the chapter devoted to infectious diseases the section concerning enteric fever as met with in the tropics and subtropics is especially well written. The ravages of this disease in the British army during the South African war and also in India are somewhat briefly referred to, and statistics (although not the most recent) are embodied to show the value of antityphoid vaccine in the British army.

## LIBRARY TABLE.

*Lectures on Diseases of Children.* By ROBERT HUTCHISON, M.D. Edin., F.R.C.P. Lond., Physician to the London Hospital, &c. Second edition, revised and enlarged. London: Edward Arnold. 1909. Pp. 426. Price 8*s.* 6*d.* net.—We gladly welcome a second edition of these lectures, which have already won their way to general favour. The present volume contains several new chapters. Lecture II. contains a brief account of the diseases to which the newly-born baby is liable, and Lecture V. deals with the subject of congenital pyloric stenosis, a condition to which a considerable amount of attention has been paid in recent years. The author holds the opinion that operation is never justifiable in these cases—which appears a somewhat extreme view. Lecture VII. treats of chronic constipation in infants, and we note the observation that in certain cases the use of thyroid extract may act most beneficially, the children being the subjects of a mild form of cretinism. Lecture XXII. constitutes an addition to the preceding chapter on common symptoms of disease in children and is devoted to a consideration of the causes of such conditions as abdominal pain, vomiting, and so forth; and a final chapter has been added on some of the commoner diseases of the skin met with in infants and children. The whole of the book has been revised and may be commended as a safe and convenient guide to the practitioner and student of medicine. It is printed on rough paper, with the illustrations on plates, and is convenient to hold and pleasant to read.

*Manual of Operative Surgery.* By H. J. WARING, M.S., M.B., B.Sc. Lond., F.R.C.S., Senior Assistant Surgeon, St. Bartholomew's Hospital, &c. Third edition. Illustrated with 521 figures, several of which are in colours. London: Henry Frowde and Hodder and Stoughton. 1909. Pp. 750. Price 12*s.* 6*d.* net.—In the present edition of this work many changes have been made, and colours have been introduced into several of the illustrations in order to make them more readily understood. The book is much more than a mere description of the operations which can be performed on the dead body; in fact, it forms a fairly complete text-book of operative surgery, quite sufficient for the student preparing for the ordinary pass examinations. The account of the preparations for an operation is good, and we agree thoroughly with the author when he says that masks for the use of surgeons are very hot and uncomfortable, and it is doubtful if they do any good, provided the surgeon is not suffering from catarrh or a septic stomatitis. We would suggest that it would be an improvement if Mr. Waring would in a future edition give some indication as to the operation which he considers better when two or more are possible. A student at an examination often has great difficulty in finding reasons for preferring one operation to another as he can have had no practical experience.

*700 Surgical Suggestions, Practical Brevities in Diagnosis and Treatment.* By WALTER M. BRICKNER, B.S., M.D., ELI MOSCHCOWITZ, A.B., M.D., and HAROLD M. HAYS, M.A., M.D. Third series. 1909. Surgery Publishing Company, New York, U.S.A. Pp. 150. Price $1.—These suggestions have appeared in the *American Journal of Surgery*, and they deserve to be collected and published in a separate volume. In this issue 200 fresh suggestions have been added to those that have been previously included. The book may prove very useful by offering hints on diagnosis or treatment in difficult cases. The style is perhaps a little too dogmatic, but it tends to impress the statements more thoroughly on the memory. As an example of useful suggestions we may quote, "Examine the rectum in all cases of tumour of the liver. Likewise, before operating for cancer of the rectum, examine the liver for metastasis"; and again, "Do not treat localised subcutaneous red and tender swellings as infectious without first making sure that they are not evidences of gout." To the following exception must be taken: "The best site for an urgent tracheotomy is through the crico-thyroid membrane." We agree that such an operation would be the most suitable in cases of the sudden onset of asphyxia, but as it would only involve the trachea it would hardly be a tracheotomy.

*The Children's Charter, Explained for Social Workers.* By M. K. INGLIS. London, Edinburgh, Dublin, and New York: Thomas Nelson and Sons. 1909. Pp. 64. Price 6*d.* net.—To Mrs. Inglis's pamphlet is appended a note from Mr. Herbert Samuel, M.P., the author of the Children Act, 1909. This note states: "This pamphlet clearly and correctly states the chief provisions of the Children Act, and accurately describes the ideas that underlie them." We agree with this statement and consider that Mrs. Inglis's work will be found very useful by medical men, district nurses, and other social workers. Mrs. Inglis suggests the formation of "Councils on Child Welfare," composed of delegates or representatives of various philanthropic and charitable bodies. Such councils might be formed locally in every district of the United Kingdom. The idea is a good one, and would if carried into effect go some way towards removing the waste and overlapping which are at present far too evident in charitable work.

*On the Tracks of Life: the Immorality of Morality.* Translated from the Italian of LEO G. SERA by J. M. KENNEDY, with an introduction by Dr. OSCAR LEVY. London: John Lane; New York: John Lane Co. 1909. Pp. xvii.-335. Price 7*s.* 6*d.* net.—It is possible to agree with the writer of the introduction to this book that the product of contemporary civilisation is not altogether an ideal individual, disfigured as he too often is by lack of moral fibre and by much unhealthy sentimentality. We therefore hoped that the author of the book, who is introduced to us in terms of high commendation, would have something useful to tell us as to the direction in which we are to look for an improvement in the human species. We were also prepared to find that the book was not addressed *virginibus puerisque*, as we are warned that "he freely discusses in the following pages the delicate subject of sexuality." We ought perhaps to balance the fact that our feelings are not shocked against the disappointment at finding no enlightenment, but the disappointment predominates. We find little "leading," if some fairly acute reflexions which may pass as "light." The author regards the two great necessaries of civilised society—work and self-restraint or morality—as evils, in so far as they both act as checks on the natural play of human faculties. His ideal appears to be a sort of noble savage who does exactly as he likes without reference to others, who gets for himself the greatest possible amount of advantage without labouring for it, and who thus embodies what the author conceives as the "aristocratic type." This ideal is naturally opposed to democratic institutions, and especially to the Socialistic Utopias now so fashionable. (In this last respect we hasten to agree with him.) No help is given us, however, as to how the new form of society, or rather the negation of society, is to be realised. In short, in spite of the high commendation expressed in the introduction by so competent an authority as Dr. Oscar Levy, we have to own that it appears to us "a song of little meaning, though the words are strong." As instances of the latter feature we may quote "imprescindable," "monoideism," "extrinsecation," "originarily," "inverisimilar," and "pragmatistically," which might be commended to examiners anxious to set problems in etymology. Perhaps a new science needs new

terms. "Quietening," however, appears to be merely a vulgarism for "quieting."

## JOURNALS AND MAGAZINES.

*Clinical Studies: A Quarterly Journal of Clinical Medicine.* By BYROM BRAMWELL, M.D. Edin., F.R.C.P. Edin., F.R.S.E., Physician to the Edinburgh Royal Infirmary; Lecturer on Clinical Medicine in the School of the Royal Colleges, Edinburgh. Vol. VI., with 106 illustrations. Edinburgh: R. and R. Clark. Pp. 416.—A large number of interesting subjects are commented on in this volume. Amongst the "post-graduate demonstrations" is one on tabes dorsalis, in which a full and excellent account is given of this disease together with an analysis of 263 cases. Especial attention is drawn to the value of testing the tendo Achillis jerk. Dr. Bramwell considers that the condition of this sign is quite as important as, or perhaps more important than, the condition of the knee-jerk. He states that in the great majority of cases of tabes the tendo Achillis jerk is absent when the patient first comes under observation. Babinski, who first drew attention to importance of the sign, was of opinion that in tabes dorsalis the tendo Achillis jerk is usually lost before the knee-jerk. Dr. Bramwell considers that this is the case as a general rule, but he has seen several instances in which the reverse has been the fact. In order to demonstrate the value of this test he quotes a case in which a patient had suffered from typical lightning pains for 11 years; he was markedly ataxic and manifested other symptoms and signs of tabes dorsalis, but his knee-jerks were both present and very active; the tendo Achillis' jerks were, however, both entirely absent, even after reinforcement. Another disease described at length is acute pericarditis. The remarks on diagnosis are particularly worthy of study; the differential diagnosis between pericarditis with effusion and dilatation of the heart is sometimes difficult. The shape of the area of cardiac dulness is not absolutely conclusive, but the presence of pericardial friction, which can usually be heard even when the effusion is copious, is an important point; it conclusively shows that pericarditis is present, and Dr. Bramwell considers that it is presumptive evidence that the increased dulness in the pericardial region is partly, at all events, and probably in most cases of acute pericarditis chiefly due to effusion within the sac of the pericardium. Numerous cases of interest are recorded in this volume and illustrate the manner in which clinical teaching can be utilised to the best advantage.

*Edinburgh Medical Journal.*—In the June number Dr. G. A. Gibson and Dr. W. T. Ritchie complete their account of a Historic Instance of the Adams-Stokes Syndrome due to Heart-block, giving a considerable number of illustrations of the microscopical appearances presented by the bundle of His in the case described. Dr. J. Hogarth Pringle writes on the value of percussion as an aid to diagnosis in cases of fracture of the skull, in which a "cracked-pot" note or a distinct difference in resonance may be observed over the affected area. Dr. D. Berry Hart discusses the interpretation of the Porro uterus in relation to the third stage of labour; Dr. Edwin Bramwell, the problem of the sane epileptic; and Dr. Halliday G. Sutherland, the peculiar predisposition of children to tuberculosis and the means of preventing the onset of this disease.

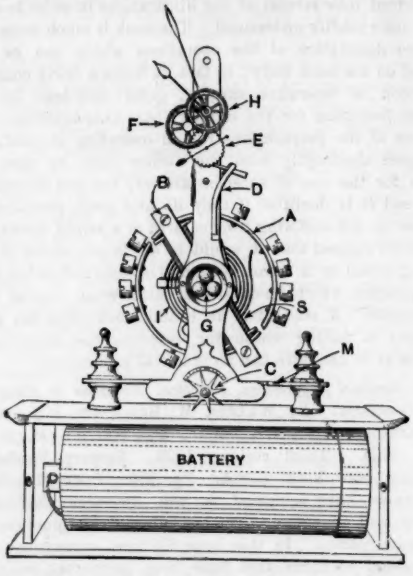
*The Dublin Journal of Medical Science.*—The question of physical deterioration is discussed by Dr. John B. Story in the June issue of this journal; he insists on the importance of physical exercises in all schools and advocates military training for all youths at the age of 18 years. Dr. T. Percy C. Kirkpatrick contributes a paper on the General Anæsthetics Bill of 1908, and emphasises the importance of special instruction in anæsthetics for all medical men and dentists; and Dr. T. Gillman Moorhead writes on Grocco's paravertebral triangle, a sign which he finds of great value in the diagnosis of pleural effusion; the dulness does not extend above the fourth dorsal spine even when the fluid fills the whole side of the chest.

*Annals of Otology, Rhinology, and Laryngology.* No. 2, 1908. St. Louis, Missouri: Parker. Price $4 a year.—This number contains an article on the Optic Nerve and the Accessory Cavities of the Nose by Professor Onodi of Budapest, which is illustrated in this well-known authority's usual style with an extremely excellent series of photographic reproductions. This article alone would render the number extremely valuable, but there are also other interesting papers, among them being Observations on Ten Cases of Intracranial Complications of Middle-ear Suppuration, by Dr. Kopetzky; Ocular Symptoms of Intracranial Complications in Otitic Disease, by Dr. Friedenberg. There are several other articles of value, prominent amongst which we will mention an article on Partial Thrombosis following Mastoiditis, by Dr. Bryant. In every way this number of the *Annals* maintains its usual standard of excellence.

# New Inventions.

## A NEW ELECTRIC CLOCK.

TIME recording by means of the electric current has been *un fait accompli* for a good many years, but until the invention of the "eureka clock," as the new electric clock which we are noticing has been named, no instrument, so far as we are aware, has been self-contained or so accurately balanced that a small continuous current, supplied inside the clock itself and independent of mains, has been sufficient to sustain the movement over a very long period of time. The

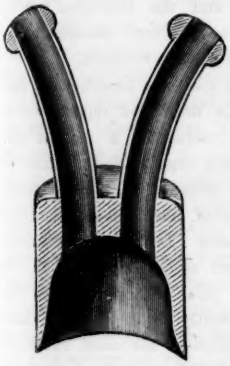



success of the "eureka clock" depends essentially upon the fact that resistance throughout its organisation is reduced to a minimum and so something only just short of perpetual motion is obtained, and thus it is that a dry electric cell lasting several years, and costing less than a shilling, suffices to keep the machinery in motion. The machinery itself is not only extraordinarily simple but silent, a point of considerable importance in the sick room, or where the susceptibilities of

sleepless and nervous individuals have to be taken into consideration. The accompanying illustration, which is a front elevation of the clock, will readily give an idea of the construction of the machine and of the principle on which it works. Broadly speaking, its action depends upon an automatic "make and break" depending upon the magnetisation of a "shoe" by the current. A is the balance wheel, which is as free from friction as a wheel can be; B is the electromagnetic horse shoe; C is the regulator by which the clock can be accurately adjusted; D is a lever which releases or locks the second hand wheel E; F is the minute hand wheel; H the hour hand wheel; G the ball bearings; I the isochronic hair spring; M the steel armature; and S the coil round the electro-magnet. The clock goes for at least 1000 days, or three years, without any attention. At the end of that time a new cell is made to replace the old one. Once adjusted the clocks which have been tested have been found to keep excellent time. The parts are English-made, the construction throughout is English, and the factory, which has only recently made a start, is situated in London at 361 and 363, City-road, London, E.C.

## A NEW CHEST-PIECE FOR THE BINAURAL STETHOSCOPE.

THE accompanying figure illustrates a chest-piece devised after careful observation of the acoustic properties possessed by certain cumbersome stethoscope fittings. The essential peculiarity of the well known "phonendoscope" is its weight and solidity of metal, which give it its peculiarly accurate and refined action. This I claim to have produced in the present chest-piece. There is no "choke" in the instrument, such as is found in every other form of chest-piece, but there are two separate equal acoustic channels, one for each ear, running through a massive base of the bell-shaped cavity. These double sound canals give the chest-piece all the properties of a mon-aural stethoscope. An essential feature of the instrument also is the disposition of the weight of metal, a solid thick base and a thin rim; this gives rise to no extraneous vibration sound currents within the chest-piece. There are no joints and fittings, another essential to accurate work. It can be claimed that the chest-piece gives the true chest sounds with accuracy and delicacy, fine crepitations are such that they cannot be mistaken for pleuritic friction and *vice versâ*. The cardiac sounds can be differentiated with accuracy, and the instrument has a particular use in the differentiation of hæmic from valvular murmurs by alternating pressure on the skin. The quality of the instrument may be tested by listening to spoken conversation across a room with its aid and comparing its effect with that of other chest-pieces used in the same manner. This chest-piece can be obtained from Mr. H. L. Trudgett, 26, Darnley-road, Hackney, London, N.E.



F. W. FORBES-ROSS, M.D. Edin., F.R.C.S. Eng.

## THE FOURTH INTERNATIONAL CONGRESS OF THE MEDICAL PRESS.

THE Fourth International Congress of the Medical Press will meet this year at Budapest on August 27th and 28th, on the eve of the Sixteenth International Congress of Medicine, and under the presidency of Professor Posner (Berlin). The sittings will be held in the Palace of the Academy of Sciences (Akademia utcza 2, Budapest V.), where the assembly hall has been graciously placed at the disposal of the International Congress of Medicine.

The official opening séance will take place on August 27th at 10 A.M. The first day will be devoted to the holding of two general meetings open to all medical journalists inscribed for the Medical Congress. On the second day two sittings will be held, to which, according to the decision of the Conference, held at Paris on Oct. 3rd, 1908, only members of the International Association of the Medical Press will be admitted.

Apart from a certain number of individual communications, the following questions have been inscribed on the agenda: the control of advertisements; the exclusion of the authors of advertising articles ("puffs"); the struggle against the gratuitous medical press; the creation of a permanent bureau at international congresses; the unification of medical terminology; the unification of the contents bills or indexes of medical journals; the obligation for the author to supply a detailed summary in the three official languages of original articles; and the creation of a central international agency to publish these summaries for the exclusive use of the medical press.

Finally, four reports will be presented by: (1) Dr. Dejace (Belgium) on the policy and object of the International Association of the Medical Press; (2) Dr. Dawson Williams (Great Britain) on the permanent bureau for international congresses; (3) Dr. Posner and Dr. Schwalbe (Germany) on the simultaneous publication of the same articles in the journals of different countries; and (4) Dr. R. Blondel (France) on the summaries authors should be requested to supply, so that they may be published at the end of original articles, and on the creation of a central agency for the publication of these summaries.

For this Congress, to which all members of the medical press will be admitted, no entrance fee or subscription will be charged. The only condition of admission is that of being also enrolled as a full member of the International Congress of Medicine. Demands for admission should be sent before August 1st to the general secretary of the International Association of the Medical Press, Dr. Raoul Blondel, 103, Boulevard Haussmann, Paris.

# Looking Back.

FROM

## THE LANCET, *SATURDAY*, July 9th, 1831.

### THE INDIAN CHOLERA.

WE have been requested to notice a "Treatise on Cholera Morbus," by Capt. W. White of the E.I.Co.'s Service, in which he communicates the result of his experience in the treatment of the disease in some cases which fell under his notice, in the absence of a medical man, while in the command of troops at Moorshedabad in India. He recommends the instantaneous administration of brandy and opium, to be followed by calomel in all cases. The following is the author's account of his own case:—

"One morning in the spring of 1819, I arose in excellent health and took my usual ride on horseback. On my return home I partook of a hearty breakfast, and while finishing leisurely my last cup of tea I suddenly turned sick and faint, and in a minute felt myself violently attacked with cholera morbus. I took the brandy, opium, &c., which was rejected. Pains in the stomach became excessively violent; the warm bath was ordered; took the brandy, &c., a second and third time, but it was rejected. At this period I had lost my speech, my strength had failed, I was seized with spasm and cramp. The warm bath being ready my servants plunged me into it; offering me more brandy, which I refused, and indicated to them to give me one of the powder papers, which contained twenty grains of calomel. This stopped the vomiting; the warm-bath relieved the cramp and tranquilised me. After remaining in the bath half an hour I was free from pain, was removed to bed, and fell into a sound sleep, from which I awoke tolerably well, but much exhausted and somewhat light-headed from the effects of the opium. I took some cathartic medicine, and in a few days was as well as ever. About three months afterwards I had a second attack, on which occasion the second glass of brandy and opium produced the desired effect."

In other respects the treatise does not require particular notice.

# THE LANCET.

*LONDON: SATURDAY, JULY 10, 1909.*


## Annual Report of the Medical Officer of the Local Government Board.

FROM the annual report of the Central Health Department it is generally possible, amongst other things, to obtain a trustworthy estimate of the sanitary condition of sundry districts which have been inspected by the members of the medical staff of the Local Government Board during the year, and the volume in front of us—that for 1907–08—forms no exception to its long line of predecessors in illustration of the appalling backwardness of rural and small urban districts in the matter of sanitation. Indeed, the student of these interesting and valuable volumes must be wondering whether in existing circumstances any real advance is practicable, so weary does he become with the waywardness of the smaller district councils; and the backsliding chronicled is the more vexatious that some of these bodies must possess quite an extensive bibliography of the reports of the medical inspectors relative to the sins of omission and commission of the various district councils during the past 30 years.

The hopelessness of the housing problem in rural districts is well exemplified in the current volume by Dr. S. W. WHEATON in his report upon the Helmsley rural district, where—we might almost be reading "Robinson Crusoe" again—some of the houses are constructed of "tree trunks springing directly from the ground and sloping to meet in the ridge of the roof." Dr. WHEATON thinks that these dwellings were in the first instance built by squatters, the walls being originally of "wattle and daub." Many bedrooms were seen which were quite dark and without means of ventilation beyond that afforded by holes in the thatch or cracks in the walls. But, strange as it may seem, large families of good physique are reared in such dwellings, an apparent anomaly for which the explanation is offered that the people live almost entirely out-of-doors, and as nearly every family possesses a cow, the milk of which is not sent away, the children are well nourished. This is certainly an important point, as in many rural districts where the milk is all despatched to the towns none is available for the local children. The rent of some of these primitive Helmsley dwellings is from 30*s.* to £4 yearly, a sum which does certainly not admit of any expenditure by the owner upon them, any pressure in this direction resulting either in a higher rent or the closure of the cottages, in which latter case there would be an undesirable exodus of the people to the towns. That the conversion of parts of rural districts into small urban districts is not a remedy for this unsatisfactory condition of affairs is well brought out in a report by Dr. REGINALD FARRAR upon the sanitary administration of certain urban districts in the West Riding of Yorkshire, in some of which the paltry salaries paid to the medical officers of health are incompatible with anything approaching efficiency. It is shown in this report that of 36 urban districts in the valleys near Huddersfield the salary paid to the medical officer of health is in 28 less than £30 and in six less than £10. For instance, in the Emley urban district the medical officer of health receives £8 a year, and the sanitary inspector, who, be it noted, is also surveyor of highways, receives for the two offices 24*s.* weekly! These urban districts were created in the "sixties" perhaps with the view of evading the county highway rates, and with the result that the roads are for the most part very badly kept. There is another fact which comes out prominently in this interesting and valuable volume, and that is the neglected condition of cowsheds, depending upon the low ideal of cleanliness which obtains with regard to them in both the urban and rural districts reported upon. In fact, if a reference be made to the summaries of all the districts inspected by the medical staff of the Local Government Board it will be seen that as a general rule the dairies, cowsheds, and milk-shops are unsatisfactory; and reflections naturally arise as to whether the provisions of the Milk and Dairies Bill will suffice to materially improve matters. Still, so many authorities are either actually or potentially involved in that Bill that the very contrariness of human nature and the jealousies which exist between local bodies must lead, both metaphorically and literally, to the introduction of more daylight.

We only propose here to touch upon the headings of, and a few of the prominent points in, the varied reports which display in so succinct and circumstantial a manner the general working of our sanitary organisation. Most of the reports have already been reviewed with some detail in our columns as they appeared, and brief indications will suffice to recall their contents. Dr. G. S. BUCHANAN contributes an interesting report as to the work of the inspectors of foods, and in this branch of the department's work he has evidently broken much new ground. Dr. R. BRUCE LOW furnishes his usual excellent summaries of the progress and diffusion of plague and cholera throughout the world; and Dr. THEODORE THOMSON gives an account of the recently created International Health Office. The animal vaccine establishment, which has figured so prominently in the history of vaccination and which has carried on its work since 1881, finally closed its books on March 31st, 1908, its further maintenance having been rendered unnecessary by the inauguration of domiciliary vaccination with glycerinated calf lymph, and as a matter of interest it may be noted that during the last year of its existence there was but one solitary vaccination performed from calf to arm. Most public vaccinators throughout the country will read with satisfaction, but some who have signed certificates of insusceptibility with incredulity, the important statement made by Dr. LESLIE C. THORNE THORNE, the director of the establishment, that during the existence of the establishment 125,566 consecutive primary vaccinations have been performed there without the occurrence of a single case of so-called insusceptibility to vaccination having been met

with by the officers of the establishment. As to this Dr. ARTHUR NEWSHOLME observes in his introductory remarks: "It seems clear that 'insusceptibility' in the legal sense—viz., failure to vaccinate a child after three attempts—must in actual practice be an extremely rare event when vaccination is performed by a competent operator with reliable lymph. The figures quoted indicate that 'insusceptibility' does not arise from any natural resistance on the part of exceptional children." Dr. NEWSHOLME'S inferences are unanswerable.

Some instructive auxiliary scientific investigations are recorded which have been, as is the annual custom, conducted under the direction of the Medical Department of the Local Government Board. Amongst these is a further study by Dr. F. W. ANDREWES of the conditions in which fæcal micro-organisms are disengaged from flowing sewage, a subject of material administrative importance in view of the growing scepticism as to the value of the intercepting trap in house drainage. The investigations show that wherever there is splashing there may also be explosions or expulsions into the drain or sewer air of sewage organisms through the medium of droplets, but that the contamination from a single splashing is a very transient affair. Where, however, the splashing is continuous the air is continuously infected, although even in these circumstances marked fluctuations in the number of sewage organisms were noticed, the degree of fæcal contents of the sewer being, it appears, the determining factor. We are still, however, awaiting the further experiments which are now being conducted to show us how far the sewage organisms liberated can be carried by air currents, an all-important question in connexion with the retention or abandonment of intercepting traps in house drains. If, for example, there is no intercepting trap and the organisms liberated by the splashing caused by one house drain into the sewer can be drawn into the drain of an adjoining house the closets of which have become unsealed, a potentially dangerous condition of things will have been revealed. Dr. ANDREWES also, in conjunction with Dr. T. J. HORDER, has been investigating the behaviour of infection by and vaccination against the pyogenic cocci, particular attention having been paid to the effects upon the leucocyte counts. It has been found that following acute infections by the pyogenic cocci the leucocytes issue from the bone marrow at intervals in a series of gushes, but that in rapidly fatal cases the leucocytic response ceases before death. The efficacy of the several anti-meningococcus sera sold as possessing prophylactic or curative value in cerebro-spinal fever has been investigated by Dr. HORDER and Dr. M. H. GORDON, and as a preliminary it was ascertained that to kill a rabbit enormous doses of the meningococcus were necessary when the organisms were administered in one dose, but that when a much smaller quantity was administered at hourly intervals the death of the rodent occurred with great regularity. They then tested the value of three sera on the market in so far as prolonging the life of rabbits was concerned. But all the sera thus tested were found to have no prophylactic or curative value. It was found, however, that vaccination with the meningococcus as a protective measure was distinctly promising. Dr. W. G. SAVAGE reports upon the relationship of bovine mastitis to human diseases and concludes that the streptococci of the streptococcus mastitidis type do not, as a rule, induce sore-throat in the human subject; while his further researches into the intestinal contents of 18 healthy and three diseased domestic animals have led him to the conclusion that organisms closely simulating members of the Gaertner group possess no pathological significance. The instructive section of the report comprising the auxiliary scientific investigations concludes with a paper by Dr. SIDNEY MARTIN on the Pathogenic Effects of the Streptococcus Fæcalis and its Endotoxin. Dr. MARTIN has ascertained that this organism, when introduced intravenously into the rabbit by means of repeated doses, induces vegetative endocarditis of the mitral valve associated with septicæmia, the coccus being found in the blood, spleen, and vegetation.

The value of the present volume is materially enhanced by the inclusion of the circulars, memoranda, and orders issued by the Local Government Board in 1907 relative to public health and vaccination, and as regards this latter subject it is gratifying to learn, on the authority of the medical officer, that the Government Lymph Establishment has been made as perfect as possible in all its arrangements, and that provision has been secured in it for the production of greatly increased amounts of lymph in times of emergency.

## An Independent Medical Profession in India.

ALLUSION was made in these columns a short time back [1] to a letter from the Government of India referring to measures that had been taken or were in contemplation for promoting the growth of an independent medical profession in India, and to a despatch from the Secretary of State, dated Dec. 11th, 1908, promulgating his decision "that the time has now arrived when no further increase of the civil side can be allowed, and when a strong effort should be made to reduce it, by gradually extending the employment of civil medical practitioners recruited in India." In view of the ever-increasing amount of work, medical, surgical, and sanitary, that has to be done in that vast subcontinent, and admitting fully the great abilities of "civil medical practitioners recruited in India," both native and Eurasian, we ventured to doubt the wisdom of the decision that "no further increase of the civil side [of the Indian Medical Service] can be allowed." We then had in view chiefly the necessity for maintaining the medical service of the country at its present high level of efficiency. Up to the present time nearly the whole of the medical, surgical, and sanitary work of India, so far as it is of an important and responsible character, has been performed by officers of the Indian Medical Service. Although the well-being of the country at large is, of course, the first thing to be considered when any important changes in existing arrangements are contemplated, the bearing of these changes on the particular body of public servants affected must not be overlooked. We may inquire therefore whether the prospects of the

[1] THE LANCET, May 29th, 1909, p. 1537.

officers of the Indian Medical Service are made better or worse by the proposed change.

The Indian Government, in taking stock of their medical officers available for war service with the army but who are in peace time employed on various descriptions of civil duties, came to the conclusion that about one-third of the officers at present holding civil posts could not be spared for military duty, even in the event of an emergency so grave as to require a general mobilisation of the army in India; and that, therefore, this proportion of officers now in civil employ does not really form part of a war reserve. Consequently, from the military point of view, the civil posts they at present hold might be transferred to independent—that is, private—practitioners. Putting on one side certain administrative offices that must continue to be held by senior members of the Indian Medical Service, these appointments include some of the more important of the civil surgeoncies, superintendentships of lunatic asylums, appointments in the assay department, the chemical analyser's department, and the bacteriological department, and about half the professorial appointments in the various medical colleges. As to the objection that any reduction in the professorial appointments would have an appreciable effect on recruiting for the service by diminishing its attractiveness, the Indian Government do not consider this would be the case, because at present there is no possibility of qualified candidates being forthcoming for more than a very small proportion of them; and by the time a larger number of such candidates, whether native or Eurasian medical men, is available, it is probable that the number of medical schools and professorial chairs will also have increased, and the requisite proportion of prize appointments be maintained sufficient to keep up the attractiveness of the Indian Medical Service. It will be admitted that the principle of open competition is, on general grounds, preferable to any system of monopoly or favouritism. The days of close boroughs, patronage appointments, and nominations for the favoured few are over; and, as we have often said, we believe that in time there will be a sufficient supply of medical men, born and trained in India and possessing the necessary attributes and qualifications, available to fill at any rate a large proportion of the medical appointments. But we are convinced that it will be long before any such suitable supply is actually forthcoming. Meanwhile, what will be the effect on the Indian Medical Service of appointing non-service medical men to "some of the more important civil surgeoncies," asylums, chemical and bacteriological posts, and about half the professorial chairs in the medical colleges throughout the country? Are not these the very appointments that constitute the attraction this service has always possessed for zealous and hard-working men, some with a bent for clinical practice, others for scientific research? If the important civil surgeoncies and the professorial chairs open to the Indian Medical Service are reduced in number it is certain that its attractiveness will be diminished, and therefore the quality of the professional men who choose it for a career will be lowered.

The Indian Government think that if the diminution in attractiveness be gradual there will be no deterioration, and they even say that it is probable that the number of medical schools and professorial chairs will have increased, as it were, *pari passu*, so that in time there will be as many appointments available in proportion as at present. Perhaps, but the proposed compensation in the future for loss in the present is absolutely vague, and to us the "probable increase" does not appear to have any present value whatever. Nor is the whole story told. All the Indian civil surgeoncies are not equally attractive—that is, in regard to professional opportunities and emoluments. The smaller appointments entail a great deal of drudgery and offer few advantages, pecuniary or otherwise. With regard to them the Indian Government say that "there would undoubtedly be no difficulty in securing the services of private practitioners who are qualified to fill the less important civil surgeoncies, but unfortunately these are just the appointments in which the war reserve officers of the Indian Medical Service can most suitably be employed." The aim of the Government appears therefore to be to leave these smaller appointments to be filled by the officers of the Indian Medical Service, and gradually to introduce another, non-official, type of medical man into the more important civil surgeoncies, asylum appointments, and professorial chairs. Our excellent contemporary the *Civil and Military Gazette* says of the statement of the Indian Government quoted above that it "surely lets the cat out of the bag, for it shows that the ultimate goal is the exclusion of the Indian Medical Service from all the more lucrative medical posts." We can take no other view. We regret, therefore, to have to state our opinion that the Indian Medical Service will be injuriously affected if the proposed changes are carried out, not only in its scientific and professional status, but also in its pecuniary emoluments, and on general grounds the Secretary of State's decision appears to be of doubtful wisdom and even of doubtful expediency.

## The Tragedy at the Imperial Institute and the Carrying of Revolvers.

THE terrible double tragedy at the Imperial Institute on the night of July 1st is so fresh in the minds of all, and its details have been so fully described, that they require no further comment from us. Our deep sympathy goes out to the relatives of Sir WILLIAM HUTT CURZON WYLLIE, the universally honoured and esteemed public servant who seems to have been the immediate object of the murderer's aim, and to those of Dr. CAWAS LALCACA, the well-known physician of oriental origin, whose accidental presence and prompt devotion made him the second victim of MADAR LAL DHINGRA'S fusillade. As to the criminal aspects of the case we, of course, say nothing, for the aggressor has yet to meet his trial; while with the many questions of political administration which have been roused by the occurrence we make no attempt to deal.

There is, however, one conspicuous point not connected with the measure of guilt of the individual prisoner now under arrest or with the subject of Imperial administration in India and at home, to which frequent reference has been made in THE LANCET and to which these terrible deaths

call the gravest attention. We refer to the promiscuous carrying of revolvers and to the numerous deaths and injuries, both criminal and accidental, even in the British Isles, due to this improper practice. DHINGRA went to the "At Home" of the National Indian Association armed with two loaded revolvers, and legally if he had a licence he had as much right to do so as he had to carry a watch, a pencil-case, and spectacles. If he had neglected to comply with the one restriction imposed by law, and had not provided himself with a licence, he could have put himself in the right with but little trouble and by the expenditure of half a sovereign. If we leave out of the question the naval and military service, a pistol is of no use except to a man desiring either to perpetrate a crime or to protect himself or others against one, and we do not believe that the acquiescence of the law in the possession of lethal weapons by any person of whatever character or antecedents is necessary or right, though we consider that the arming of our police with revolvers could be defended. We do not suggest that the ownership of revolvers by determined and cunning criminals can be prevented, but we assert emphatically that it can and ought to be rendered less easy. In our view a heavy duty on revolvers of all kinds would drive out of existence the cheap weapon which has been responsible for so many of the disasters, purposive or accidental, that we from time to time record; and if the duty, which should be a really high one, were remitted to persons purchasing and using their weapons in the course of naval, military, and police service, or for lawful purposes abroad, no hardship would be incurred by anyone. Such a duty would enable pistols to be intercepted at the Custom House when brought from foreign countries. Householders desirous of protecting themselves and their property against burglars would not complain at having to pay such a duty, while it is our belief that the number of persons who keep revolvers for such a legitimate object is, even now with no duty to pay, extremely small. But the armed burglar is a danger against which it is legitimate to be armed, and there is no reason why careful citizens should not obtain, after suitable formalities, licence to arm themselves, if they like to undertake the risks attendant on the procedure.

The carrying of a revolver in any place, public or private, not in the occupation of the person carrying it, unless a reasonable explanation were forthcoming, might well be made an offence against the law and one severely punishable in suitable circumstances, thus limiting the use of the weapon to self-defence. We do not anticipate that such an enactment would prevent altogether those meditating crimes from obtaining firearms or from using them, but it would render both the obtaining and the possession of them comparatively difficult and unsafe. Possibly no one knew that DHINGRA carried revolvers, but, even if a fellow student or an inquisitive landlady had become aware that he was in the daily habit of going out armed to the teeth, in the present state of the law it would not have been his or her concern, and if the matter had been reported to the police no effective interference would have been possible. If the carrying of such weapons were a "substantive offence" then interest would immediately be aroused in a practice which now can only be regarded as a lawful eccentricity, and we may be sure that information would often be given voluntarily upon which the executive would gladly take proceedings. Can anyone who reads of the crimes in which revolvers play a part formulate an objection to a law which would enable the police, acting upon trustworthy information, to invite into a suitable place and search a person suspected of going into the streets armed like a desperado in one of BRET HARTE'S stories? Would any decent citizen be likely ever to find himself inconvenienced thereby, or would he not cheerfully run the risk in view of the greater protection which he would enjoy against crime? We have not ascertained the opinion of the police on the subject, but we can hardly believe that they would not gladly have their hands strengthened against a class of crime of which they are not infrequently the victims, as witness the savage murders which not long ago were committed by alien ruffians in broad daylight at Tottenham. The recent tragedy is one which, owing to the prominent position occupied by its victims and to the circumstances in which it was perpetrated, has attracted exceptional attention. There are, however, other persons in the kingdom who offer themselves almost daily as more conspicuous marks to the murderous fanatic than did Sir WILLIAM CURZON WYLLIE, and we believe it to be desirable to minimise, as far as it is possible to do so, a risk which, we admit, cannot be altogether abolished—and to do so without delay.

# Annotations.

"Ne quid nimis."

## FARADIC STIMULATION OF THE CEREBRAL CORTEX IN CONSCIOUS PATIENTS.

UNDER the modest title, "A Note upon the Faradic Stimulation of the Post-central Gyrus in Conscious Patients," Professor Harvey Cushing of the Johns Hopkins Hospital, Baltimore, contributes to the latest number of *Brain* a paper which may well prove to be epoch-making, both from the physiological and the surgical points of view. The employment of the unipolar method of faradisation by Sherrington and Grünbaum in their classic experiments on the anthropoid brain has enabled them accurately to delimit the electrically excitable motor area to the anterior wall of the fissure of Rolando and a strip of the adjoining surface of the precentral convolution, and their results have been completely corroborated for man by Krause and by Frazier; further, Cushing himself says that he has had the occasion to stimulate the cortex of more than 50 anæsthetised patients with precisely identical results. This simple statement is of the deepest significance. By experiment on the human cortex the motor area has been exactly delimited and found to correspond strictly to the excitable motor area of the anthropoid ape. The justification—were any needed—which these facts afford for the prosecution of scientific experimentation on animals is so obvious that we do not require to labour the point. The experimental study of sensation in animals, however, is difficult and unsatisfactory, depending as it does so much on the interpretation of reflex actions. Professor Cushing has in the course of the past year had two opportunities of making observations on the

sensory cortex in conscious patients, and the record which he gives of these cases is fascinating from its very plainness and directness. A sturdy and intelligent boy, aged 15 years, came under observation suffering from Jacksonian attacks in the right arm and face, attacks preceded by a sensory aura of numbness, tingling, and "goneness" in the right hand, more particularly the ulnar fingers, and arm. No loss of consciousness accompanied the seizures. Certain indications suggested the possibility of a cerebral tumour, and an operation was decided on. Under chloroform the central area of the left hemisphere was exposed by the usual osteoplastic craniotomy, and the situation of the precentral gyrus assured by unipolar stimulation, sharp movements in wrist, elbow, shoulder, and face being readily obtained. No cause for the attacks being discovered at this stage, it was determined to make a more radical attempt to disclose their source of origin. Three weeks later, after a preliminary injection of one-eighth of a grain of morphia and under primary anæsthesia by chloroform, the bone-flap was quickly reopened and the dura mater exposed. The patient promptly regained complete consciousness, and without occasioning him the least discomfort the dura mater was incised and reflected. The same movements as before were then elicited by mild faradisation of the precentral cortex. The boy was perfectly aware of these movements, and said that they gave him a sort of drawing sensation as if the muscles were being "pulled" by an electric battery. In other words, they gave him the sensation of active muscular contraction alone. Stimulation over an area roughly corresponding to the upper two-thirds of the post-central gyrus with the same strength of current produced a sensation in the hand, arm, and little finger, said by the patient to be exactly akin to the sensation that inaugurated his attacks. Stimulation lower down on the post-central gyrus occasioned a sensation of warmth in the arm. No painful sensations whatever resulted. At a spot higher up on the gyrus the electrode produced an attack precisely similar to his usual attacks without loss of consciousness. A number of small vessels crossing the convolution at that level were accordingly ligatured and a subcortical exploration was made, but without disclosing any gross lesion. No sensation whatever accompanied the making of this exploration. The dura mater was reclosed, and under a second primary chloroform anæsthesia the scalp wound was quickly sutured. In the other case, also one of Jacksonian epilepsy confined to the right arm, with a sensory aura, the same procedure was adopted. At the second stage the patient was narcotised with morphia, from which he readily recovered, and during the stimulation he remained perfectly composed, eager to assist in every way in his power. Using a weak faradic current, the middle of the left post-central gyrus was lightly touched for the briefest moment of time with the tip of a coiled platinum wire electrode. He immediately responded, saying that he experienced a sensation as though someone had touched or stroked the index finger of the right hand. From points lower down on the same gyrus, touching or stroking as though on the back of the hand was felt. On stimulating the precentral convolution at a point opposite prompt flexion of the thumb into the palm of the hand followed, without any associated cutaneous sensation. The significance of these briefly recorded phenomena is not easy of interpretation beyond a certain point, inasmuch as we are still ignorant of the real relation of afferent impulses to motor responses. They suggest that the post-central gyrus has a sensory function; of what kind and of what degree of completeness we cannot say. Surgically, in each case the operator was able to delimit the area from which attacks such as the patients had been suffering from could be elicited, and to act in accordance with this knowledge. The entire absence of any sort of pain or even of discomfort on the part of the patient is not the least interesting part of the record. In skilful hands, but in skilful hands alone, the opportunity of increasing our knowledge of cerebral function might be remarkable. It must be emphasised that Professor Cushing applied his electrode for the particular purpose of determining the localisation of the area of excitability producing his patients' attacks, and for that purpose alone. The experiments were conducted from the patients' standpoint, and their intelligent coöperation renders the result the more valuable.

## THE BOON OF THE BY-ROAD.

IT is undeniable that the motor-car is rapidly extinguishing the pleasure of cycling, not merely because of the clouds of dust, of the petrol fumes, or of the menacing pace, but because the main roads are in so many instances reduced from the smooth surface, which at one time characterised them, to a state of fine grit and sharp particles which make riding hard and play havoc with an unprotected pneumatic tyre. The motor-car appears to suck out the binding material of the road, and to leave spicules of flint behind which readily penetrate the unprotected tyre of the bicycle. Cycling has attractions for so many people, is undoubtedly a healthy pastime, and is so often a source of convenience, that anything which threatens to hinder its practice and enjoyment must be a matter for regret. We inquire, therefore, why a new road-book is not issued setting forth, where it is possible, the route between place and place along by-roads which escape the traffic of the motor and are not direct, while their narrowness and curves obviously would not appeal to a man in possession of a machine capable of running over 20 miles an hour. We feel sure that some such road-book could easily be furnished, and in fact we have had proof of this. There are very often some excellent but relatively narrow by-roads which run almost parallel with the trunk road for miles, and yet there will be no decided indication of them in the present maps sufficient to induce the cyclist to take them. What is wanted, it seems to us, is a map marking very prominently the roads which are not main roads, say with a strong-coloured broad line, leaving the main roads as uncoloured lines. This would mean an informal survey of the roads of the country on behalf of the cyclist, and, need we add, on behalf of the motorist also, for there is little doubt that allocation to separate roads would please the motorist and cyclist equally. We are sure, at all events, that such new maps would meet with the hearty approval of a number of cycling people, who have abandoned this pleasurable and healthful form of travelling owing to the increased dangers of the road and to the destruction of its good cycling surface due to motor traffic.

## "HEART."

WE welcome this week the first appearance of a periodical entitled *Heart*,[1] which has been founded to render the like service to the diffusion of recent knowledge on the physiological, dynamical, and pharmacological problems of the circulation as our admirable contemporary *Brain* affords in the cause of neurology. *Heart*, which is edited by Dr. Thomas Lewis, displays upon its title-page the names of an advisory staff formed by a group of British and American physicians and physiologists who may confidently be said to ensure scientific success for the new journal, the objects of which are stated to be "the progress of knowledge of the mechanism by which the blood circulates in health and disease. ..... To know the pump, which Harvey revealed to us, more intimately; to understand more

[1] Heart: A Journal for the Study of the Circulation, Vol. i., No. 1. London: Shaw and Sons. Pp. 82. Price 5s. 6d. net (subscription price, 20s. per volume).

definitely the forces which regulate its action, and the mechanism by which it distributes the constant stream of blood ..... ; to determine the causes which impair the circulatory functions ; to see more clearly the means of prevention and the remedies which palliate where injury to the heart or vessels is concerned." These objects are to be attained by the publication of original work only, and the first number could not be opened more fittingly than with a prefatory writing by Dr. W. H. Gaskell, who holds the place of honour in this country amongst those concerned in throwing light upon the obscure nervous and muscular processes which bring about and regulate the beat of the heart, upon which all human activities depend. Dr. Gaskell's claim that "medical science is losing its empiric character and is founding itself on the well-ascertained facts of physiology and its cognate sciences, pathology and pharmacology," is justified by the scientific output in the past of workers of his own quality. We content ourselves in this note with the enumeration of the four papers constituting the first number of *Heart*. Professor A. R. Cushny, whose pharmacological researches are known to all modern physicians, writes on the Irregularities of the Mammalian Heart Observed under Aconitine and on Electrical Stimulation. Dr. James Mackenzie, whose demonstration of his cardio-polygraph before the Royal Society of Medicine and whose publication of a remarkable work on "Diseases of the Heart" will be within the recollection of our readers, contributes a paper on Nodal Bradycardia, in which we find the methods of the laboratory applied at the bedside in the manner recently made familiar to us by himself. The editor is responsible for a detailed study of Paroxysmal Tachycardia, and Dr. Leonard Hill describes the methods which, with the coöperation of Mr. Martin Flack and Dr. W. W. Holtzmann, he has devised for the measurement of systolic blood pressure in man. This paper completes the first number of *Heart*, which, as our readers will agree, shows every promise of a scientific future of exceptional clinical utility.

## AMPUTATION OF THE ARM UNDER LOCAL ANÆSTHESIA.

IN the *Boston Medical and Surgical Journal* of June 10th Dr. J. H. Cunningham has reported a case in which the arm was successfully amputated under local anæsthesia when the general condition rendered administration of ether unsafe. The patient was a woman, aged 65 years, who for some years had been treated at hospital for gastritis, myocarditis, enteritis, arterio-sclerosis, emphysema, and chronic bronchitis. On March 5th, 1909, her left hand became painful, swollen, bluish, and cold. Some degree of circulation persisted, for the colour returned after pressure on the fingers. Venous thrombosis was diagnosed and a protective dressing was applied. The condition extended to the forearm. On the 6th there was pain in the left groin and both legs were œdematous. The circulation in the veins of the right leg had ceased. On the 15th there was a line of demarcation about 12 centimetres above the wrist, with a blackened, sloughing, gangrenous mass below, and amputation of the left arm under local anæsthesia was decided upon. The arm was held up so as to expose the axilla and a tourniquet was applied as high as possible. An area three inches long, beginning at the lower border of the axilla and extending along the inner edge of the biceps muscle, was anæsthetised by injection of a 1 per cent. solution of cocaine. An incision was made through the skin and superficial fascia until the border of the biceps was exposed. The skin was then cocainised in a line extending across the anterior surface of the biceps at right angles to the incision already made. An incision was carried down to the muscle. The biceps was injected with cocaine and divided with scissors. By retracting the triangular flap of skin and muscle the vessels and nerves were exposed by blunt dissection. The median nerve was isolated and moistened with the cocaine solution. The needle was then plunged into the nerve and a few drops of the solution were injected. The nerve was divided in the cocainised area. The musculo-cutaneous and ulnar nerves were exposed and similarly treated. Neither sensation nor muscular contraction was produced during division of these nerves. The brachial artery was isolated, ligatured in two places, and divided between the ligatures. The basilic vein was treated in the same way and found to be thrombosed. It was therefore dissected upwards towards the axilla in order to get above the thrombosis, but this could not be done and the vein was therefore again divided. The anterior group of muscles was divided with scissors down to the bone. The musculo-spiral nerve and superior profunda artery were exposed. The nerve was injected and divided, and the artery was ligatured in two places and divided. The skin on the posterior aspect of the arm and the triceps were divided by a single sweep of a long bistoury down to the bone. The muscles were peeled back from the humerus for two inches and the bone was sawn through. The tourniquet was removed and there was only slight oozing from the muscles. The muscles were gathered round the end of the bone by a purse-string catgut suture, care being taken to exclude the nerve stumps. The wound was closed by interrupted silkworm-gut sutures without drainage. The operation occupied 40 minutes. The patient felt no pain and the only disagreeable feature was the noise of sawing the bone. No change in the pulse followed division of the nerves. About four drachms of the cocaine solution were used. Care was taken to open up the injected areas after about a minute, so that no cocaine remained in the tissues for any time. There was no evidence of any toxic effect. After the operation the patient appeared better, there was no evidence of shock, and she passed a comfortable night. The left thigh became red and swollen, suppuration occurred in the amputation stump, and the patient gradually failed and died three days after operation. The necropsy showed extensive thrombosis involving the left brachial, subclavian, jugular, femoral, and external iliac veins. The superior longitudinal and other cranial sinuses contained old friable thrombi.

## THE "E.M.I."

THE *entente cordiale médicale* has by no means been forgotten by our friends over the water even if we have not heard so much of it this year as last, when the Franco-British Exhibition filled London with French visitors, amongst whom were a large number of members of the medical profession. Some of them will be soon renewing their recollections of this country under the auspices of the Œuvre d'Enseignement Médical Complémentaire, which is also known as the Enseignement Médico-mutuel International, or more shortly the "E.M.I.," and which forms one of the chief organisations for post-graduate study in France. The "E.M.I." has decided this year to hold its annual tour in the British Islands between July 28th and August 16th, and a very interesting and comprehensive circle of visits has been arranged through the chief centres of medical activity in Great Britain and Ireland. The party will start from Boulogne on Wednesday evening, July 28th, and spend the next four days in London. On Sunday evening it will enter upon the following itinerary : Oxford, Cambridge, Sheffield, Manchester, Edinburgh, which will be reached on Friday, August 6th, and left on August 9th, and Glasgow, which will be reached on the same evening by a detour through the

Trossachs in order to give the visitors an opportunity of enjoying some of the most famous scenery in Scotland. The next day will be spent in Glasgow, and on the 11th the party will cross to Belfast, proceeding to Dublin on the 12th. On the 13th Liverpool will be the objective, the journey being made *viâ* Holyhead, and on the following day the party will go south to Bristol, returning to London the next evening (Sunday, August 15th), and to Paris on the following afternoon. During the tour the mornings will be devoted to its scientific objects, including visits to hospitals and infirmaries, and the afternoon to sightseeing. It is probable that some of our professional countrymen may like to improve their knowledge of their own country and their acquaintance with the French language by participating in this projected tour, in which case they should signify their intention to do so to M. Etienne Bazot, President of the Central Council of the "E.M.I.", 12, rue François-Millet, Paris, and forward their subscription to M. Amédée Schmitt, 1, rue de l'Echelle, Paris, sending 20 or 15 francs according as they wish to become Members or Associates of the "E.M.I." Whatever be the number of their British *confrères* who may join them, we wish our visitors from France a profitable and enjoyable trip, with better weather than the official summer has yet afforded us.

## AORTIC INSUFFICIENCY SIMULATING ANEURYSM.

IN the *University of Pennsylvania Medical Bulletin* for May Dr. G. M. Piersol has reported two cases of aortic insufficiency simulating aneurysm. A negro teamster, aged 36 years, was admitted into hospital on Feb. 1st, 1909. His illness began in July, 1908, with paroxysmal cough and dyspnœa. For three months there had been in addition to these symptoms swelling of the feet and legs. On admission there was considerable œdema of the legs. The upper half of the sternum and entire præcordium showed marked bulging and diffuse pulsation. Visible and palpable pulsation extended upwards to nearly an inch above the upper edge of the sternum and laterally beneath the insertion of the left sterno-mastoid muscle. Over this area a systolic thrill was felt. The apex beat was visible in the sixth interspace one and a half inches to the left of the mid-clavicular line, and was heaving and accompanied by a thrill. The upper limit of cardiac dulness was continuous with an area of dulness which extended upwards to the first interspace. Rough systolic and diastolic murmurs were heard over the whole præcordium. The peripheral arteries were sclerosed. The pulses in the left carotid, brachial, and radial arteries were much smaller than in the right. Slight tracheal tugging was sometimes present. The urine was of specific gravity 1040, and contained a trace of albumin, hyaline and granular casts, and many red corpuscles. There was a history of a venereal sore. Aortic insufficiency, complicated by aneurysm of the ascending and transverse portions of the arch of the aorta, was diagnosed. The diagnosis of aneurysm seemed amply justified by the marked sternal and episternal pulsation and thrill, the abnormal dulness, the inequality of pulses, and the tracheal tugging. But skiagraphy showed a much enlarged heart, above which the shadow of the aorta, though somewhat broader and higher than normal, nowhere gave evidence of circumscribed or even diffuse dilatation. Near the aorta were several enlarged peribronchial glands, the shadows of which blended with that of the aorta and increased the appearance of broadening. Within ten days a striking change occurred. The episternal pulsation subsided so as to be scarcely visible and the episternal thrill disappeared. Death occurred six weeks after admission from cardiac and renal failure. At the necropsy was found an enormous heart with dilated and hypertrophied ventricles and left auricle, and dilated right auricle. The mitral valves showed slight general thickening and the aortic valves were sclerosed. The aorta exhibited no evidence of dilatation, but was the seat of endarteritis, probably syphilitic. The lymphatic glands generally, and especially the mediastinal ones, were enlarged. The latter were connected by a few adhesions. There was also chronic interstitial nephritis. How were the signs of aneurysm to be explained? The episternal pulsation was doubtless partly due to widening of the aorta, but its principal cause was increased action of the hypertrophied left ventricle. The abnormal dulness was due to the greatly enlarged left auricle, the widened aorta, and the enlarged mediastinal glands. The tracheal tugging, always slight and inconstant, was attributed to the mediastinal adhesions. Sewall, an American writer, has shown that pleural adhesions at the left apex may produce slight tracheal tugging, and has reported a case in which slight tracheal tugging was apparently due to adhesions involving the mediastinal pleura. The inequality of pulses is difficult to explain, as their cause was not investigated at the necropsy. Probably the left carotid and subclavian arteries were partially occluded by obliterative endarteritis. In the second case a man, aged 37 years, was admitted into hospital complaining of cough, dyspnœa, palpitation, and weakness. He had suffered from syphilis and taken alcohol freely. There was a heaving impulse over the bulging præcordium. The apex beat was heaving and visible, and palpable in the sixth interspace almost in the anterior axillary line. In the second interspace, about one inch to the right of the sternum, was a visible and palpable pulsation with a diastolic thrill. Less marked pulsation was present in the third interspace, one and a half inches to the left of the sternum, and in the suprasternal notch. In the latter area, as well as in the carotids, there was a systolic thrill. The upper part of the sternum was dull. There were systolic and diastolic murmurs. The peripheral arteries were thickened. The urine was albuminous and contained casts. Skiagraphy showed an enormous heart, and only an unduly high and widened aortic arch.

## ELECTRIC NARCOSIS AND RESUSCITATION.

SOME time since we had occasion to refer to the condition known as "electric narcosis," first discovered by Professor Leduc of Nantes. It is brought about by passing through the nerve centres a current, preferably from a battery, which by means of a special commutator was interrupted 100 times a second, the current actually flowing for one-tenth of the period between each interruption. This is now known as the Leduc current; and if there are no signs of its displacing ether and chloroform for producing anæsthesia in human beings, it certainly has done so to a large extent in the conduct of laboratory experiments upon animals. We have received copies of a series of papers by Dr. Louise G. Robinovitch of New York, in which she makes several important communications regarding the uses and properties of such currents. Speaking of electric anæsthesia in laboratory work, she points out the following advantages among others: 1. The blood pressure, respiration, and temperature remain about normal, even after eight hours or longer anæsthesia. 2. It can be induced not only centrally but locally. 3. No animals have been lost from this anæsthesia. 4. A voltage of from 5 to 10 is all that is required to produce electric anæsthesia, and this potential is quite free from danger to life. Finally, Dr. Robinovitch has been able to perform important operations, such as exposure of the brain, carotid artery, vagus nerve, and abdominal organs, under its influence. Carrying her investigations further, she has made the somewhat paradoxical discovery that if properly applied this current can resuscitate

electrocuted animals. The animal having had the hair shaved off at three places—head, upper part of dorsal region, and lower part of spine—is placed in the cradle with an electrode fastened to each shaved area. The electrode placed at the end over the lower part of the spine is the anode, the other two are cathodes, that at the root of the neck at first being disconnected. When everything has been prepared, a lethal current is passed through the body until apparent death sets in. The cranial electrode is then disconnected, that at the root of the spine being joined up in its place, and the operator by means of a suitable break carries on rhythmical excitations with a sufficient potential to cause maximum respiratory expansions. These are practised for one second with an interval of from two to three seconds. From 10 to 30 of these are generally necessary to restore spontaneous respiration, and a successful result may occur after a much longer period. Carrying her work still further, Dr. Robinovitch has succeeded in resuscitating animals after cardiac or respiratory syncope has been induced by chloroform or ether, the method of applying the current as well as the current itself being essentially the same as that which we have described. The possible practical importance of these experiments in surgery is obvious, for there would seem to be no valid reason why, in cases where the administration of a general anæsthetic was attended with some anxiety, arrangements should not be made to apply rhythmical electrical excitations.*

* *References* :—(1) Journal of Mental Pathology, vol. iii., No. 3, 1907. (2) Bulletin de la Société Clinique de Médecine Mentale, No. 4, November, 1908.

## THE SIXTEENTH INTERNATIONAL CONGRESS OF MEDICINE AT BUDAPEST.

THE travelling arrangements to and from the Sixteenth International Congress of Medicine, to be held at Budapest from August 29th to Sept. 4th, have now been issued, and the *carte d'identité* enabling members to obtain certain reductions in the fare has been sent to everyone who has paid his subscription. The official reductions are 50 per cent. on the French lines if application upon the pink form issued is made at least three days before the ticket is required. This form must be stamped at the Congress before it is available for the return journey. The Royal Hungarian State Railways make a reduction of 50 per cent. to members furnished with the green card of identity, and there is a similar reduction on the Danube boats. But it appears from the instructions issued that very few members of the British section will be able to obtain these reductions without breaking the journey at each frontier, as it has been found impossible to establish any system of through tickets at reduced rates. The Great Eastern Railway will issue circular tickets as follows: London, Harwich, Hook of Holland, Rotterdam, Cologne, Mayence, Frankfort o/M, Passau, Linz, Vienna, Budapest; Vienna, Dresden, Hanover, Salzbergen, Hook of Holland, Harwich, and London. The cost of these tickets is £10 14*s.* 5*d.* issued singly or £8 2*s.* 11*d.* if issued to parties of 20, but these latter tickets are only available to Vienna. They are available for 90 days, second-class rail in England, first-class on the G.E.R. steamers; second-class rail on the continent and first-class on the Rhine steamers or second-class rail between Cologne and Mayence. By the night service leaving Liverpool street at 8.30 P.M. there is a through carriage with a restaurant car from the Hook of Holland to Frankfort (5.48 A.M. to 4.10 P.M.), and a sleeping car (extra fare) from Frankfort to Vienna (4.37 P.M. to 7.30 A.M.). If the journey is taken *viâ* Dresden there is a through carriage with a restaurant car from the Hook of Holland to Hanover (5.25 A.M. to 3.5 P.M.); a through carriage with a restaurant car from Hanover to Leipsic (3.5 P.M. to 10.2 P.M.), and a sleeping car (extra fare) from Dresden to Vienna (10.2 P.M. to 7.40 A.M.). Mr. J. Y. W. Macalister has issued a circular from the Royal Society of Medicine, 20, Hanover-square, London, W., stating that he has organised a party for the Fellows of the Royal Society of Medicine and for the friends of Fellows who are properly vouched for, although they are not connected with the Society. This party will be accompanied by an experienced courier. It will travel by the train de luxe both on the outward and homeward journeys and will be lodged in the best hotels. The inclusive charge is 36 guineas *viâ* Ostend and 38 guineas *viâ* Calais. A deposit of £5 is required, and names are to be sent in at once. The South-Eastern and Chatham Railway Company quote specially reduced rates for parties of not less than 20 passengers travelling together on the outward journey, but will make no reduction to members travelling individually. The Zeeland Steamship Company, which runs through carriages from Flushing to Vienna in connexion with the day and night services from Victoria to Queenborough, will also allow a reduction on the ordinary fares for parties of 20 who travel together.

## MILK ADULTERATION.

WE referred last week under this title to the prosecution by the Borough Council of Shoreditch of the Great Western and Metropolitan Dairies Company, alluding to previous convictions of this company. The Great Western and Metropolitan Dairies Company, Limited, is a very large company and the managing directors take extraordinary pains to secure the purity and integrity of their supply; therefore we think it right to point out that the previous convictions of which we spoke occurred as long ago as seven years and three years respectively, a fact of which we were not aware when commenting upon the subject. As samples of milk belonging to this company are taken sometimes 10 or 12 times in the week for analytical purposes by the different councils, three convictions in ten years do not reveal the company as hardened offenders, but testify rather to the pains which are taken to maintain a good supply. There is no doubt that the offence for which Mr. Cluer fined the company a few weeks ago had been committed, but we think it fair to the managing directors to record our belief that they take anxious trouble to prevent such occurrences.

## IONS IN GYNÆCOLOGY.

AN interesting example of the application of ions in medicine appears in a clear and instructive paper on the subject by Dr. Samuel Sloan in our columns this week. The results recorded refer to the treatment of obstinate gynæcological cases by ionic medication, and they show that ions serve more effectually in the treatment of septic conditions of the female genital tract than do ordinary antiseptics. This to some extent might be expected, having regard to the greater chemical activity of ions, which behave chemically much in the same way that substances *in statu nascendi* do. Nascent oxygen or hydrogen, for example, is far more active than is oxygen or hydrogen in the free state. Ions, however, necessarily possess penetrative power, which is more important still, and the success of their application in the antiseptic treatment of tissues is undoubtedly due to this fact. In the case of simple diffusion, as Dr. Sloan points out, the substance will, in ordinary circumstances, pass into the intercellular spaces only and be at once carried off by the blood and lymph streams; in the case of electric transudation, on the other hand, the ions penetrate into the protoplasm of the cell itself, and therefore no lodgment of micro-organisms can escape the action of the germicide or antiseptic. For the details of the

method we must refer our readers to the original paper, but it is interesting to remark that the method is simple, while cases are recorded as giving monotonously gratifying results under the treatment. Dr. Sloan has limited his observations to the use of copper and iodine ions since these gave such excellent results. It has been suggested, however, that each micro-organism may have its own specially potently poisonous ion, copper for one organism, zinc for another, and so on. The study of ions may therefore throw valuable light on the varying resistances which organisms are known to offer against certain agents. There are not a few scientific men who are opposed to the theory of ions, but unsatisfactory as a theory may be in the light of every consideration it is convenient to retain it when facts which fit it so well are not wanting.

## COLEY'S FLUID.

FROM time to time cases have been noticed in which growths involving the skin which have been thought to be malignant have diminished in size or have even disappeared during or after an intercurrent attack of erysipelas. This fact, as is well known to all our readers, induced Dr. W. B. Coley of New York to make experiments to see if the toxins of the streptococcus erysipelatosus possessed any power over new growths, and he has employed these toxins for this purpose. He considers that the action is increased by the presence of the toxins of bacillus prodigiosus, and "Coley's fluid" has been much employed. Dr. Coley has described satisfactory results from its use in certain cases, especially in spindle-celled sarcomata, but on the whole it may be said that his results have not been obtained by other surgeons, perhaps from an indiscriminate employment of the method in all forms of new growth. In THE LANCET of May 22nd, however (vol. i., 1909, p. 1455), Mr. W. C. G. Ashdowne published a remarkable account of a case in which an apparently sarcomatous growth of the humerus disappeared after 23 injections of Coley's fluid. We are interested in hearing that Dr. Coley will deliver an address on the Treatment of Sarcoma by Bacterial Toxins at a special meeting of the Surgical Section of the Royal Society of Medicine which is to be held on July 13th at 5 P.M. A personal exposition of the principles and practice of his method may induce surgeons to follow his lead more generally than at present they do.

## THE TUBERCULOSIS PREVENTION (IRELAND) ACT, 1908.

WE have received from the Local Government Board of Ireland the memorandum of the objects of this Act and the copy of the Order prescribing the forms and stages of tuberculosis to which, and the circumstances in which, the first section of the Act, that dealing with the proposed scope of notification, applies. The form of the statutory certificate to be used by the medical practitioner is appended, as well as the order making regulations for carrying into effect in urban and rural districts that part of the Act which relates to notification and disinfection. Regulations with regard to these may be adopted and enforced by any sanitary authority which complies with the prescribed procedure, for which purpose a resolution deciding to adopt this part of the Act must be passed by the sanitary authority of the district, forwarded for the approval of the council of the county within which the district is situated, and publicly notified by advertisement. As soon as the Act has, by compliance with due forms, become operative, it will be the duty of every medical practitioner to furnish particulars on an official form to the medical officer of health of such cases of tuberculosis as fall within Section I. of the Act, which section limits notification to cases of tuberculosis of the lung "so circumstanced that they are likely to prove a means of distributing the disease unless precautionary measures are adopted." The beneficent intention of the legislation is obvious, and the need in Ireland of special measures for the prevention of tuberculosis is proved over and over again by the statistics of mortality. None the less, we hardly expect the Act to work smoothly from the beginning, while the executive machinery may put upon medical practitioners a considerable burden, and may involve them in considerations of a difficult nature. Our Dublin correspondent, it will be seen, voices this feeling emphatically.

## THE KING IN BIRMINGHAM.

ON Wednesday last His Majesty the King opened the new buildings of the University of Birmingham. His Majesty, who was accompanied by the Queen and Princess Victoria, received a loyal address from the city, in response to which he made a reply dwelling upon the vast industrial expansion of Birmingham and the devoted service of her citizens, which must have been very gratifying to the large assembly. Sir Oliver Lodge, Principal of the University, then presented an address to His Majesty, in which he dwelt on the indefinite scope of work lying before a modern University. In response to this the King delivered an eloquent testimony to the progress of higher education in his kingdom which has recently taken place, adding that it gave him special pleasure to declare open the magnificent buildings of the University of Birmingham. The proceedings terminated with the usual presentations.

## RATS AND PLAGUE PREVENTION IN QUEENSLAND.

THE Department of Public Health for Queensland in its plague bulletin for the week ending the month of May stated that with the exception of one case at Mackay in January last the State of Queensland has been free from plague during the present year, and no further bulletins will be issued unless another case occurs. The immunity enjoyed this year by Brisbane after nine successive years—viz., 1900–08—of epidemic plague may be fairly attributed to the continuous and systematic destruction and examination of rats and mice in the periods of freedom from, as well as in the periods of prevalence of, the disease. The experience gained in former years with regard to efficient methods of rat destruction has thus been of great service in preventing a recurrence of the disease during the present year. The last infected rat was found in Brisbane on Sept. 15th, 1908. Since that date in Brisbane 19,503 rats and mice have been destroyed, and although 15,878 of these were examined none were found infected. In other towns of Queensland nearly 15,000 rodents were destroyed and about half of them examined with an equally satisfactory negative result. It is very gratifying to be able to record so practical an outcome of the report of the Indian Plague Commission which established the infectivity of the rat flea in the epidemiology of plague by a series of experiments for which the special credit is due to the ingenuity and resourcefulness of Major G. Lamb, I.M.S., and Captain W. G. Liston, I.M.S. The results obtained in Australia by the application of the lesson which their researches have taught us should be especially encouraging to these officers and their fellow commissioners who are faced in India with almost insurmountable difficulties in applying it to the prevention of plague. We may add that the abolition of the disease from Queensland affords yet another splendid vindication of the experimental method of research. But perhaps the addresses at the approaching Anti-Vivisection

Congress will include a threnody upon the slaughter of the Queensland rats and mice.

Dr. A. C. Houston, Director of Water Examinations to the Metropolitan Water Board, has presented to the Board his fourth report on research work dealing with the vitality of the cholera vibrio in artificially infected samples of raw Thames, Lee, and New River water, with special reference to the question of storage. The results were similar to those obtained by Dr. Houston in a previous similar research carried out with typhoid bacilli, and afforded even more striking proof of the value of storage. It was found that as a result of simple storage of water to which cholera vibrios had been added 99·9 per cent. of these organisms perished within one week, and in none of the experiments did any vibrios survive three weeks' storage.

THE recent death of Lady Burdon-Sanderson, widow of the late distinguished Waynflete Professor of Physiology and Regius Professor of Medicine in the University of Oxford, has been announced. Lady Burdon-Sanderson was a daughter of the Rev. Ridley Herschell, sister of the late Lord Chancellor Herschell, and aunt (by marriage) of the Right Hon. R. B. Haldane, Secretary of State for War, and Dr. J. S. Haldane, F.R.S., reader in physiology at the University of Oxford. She was a woman of exceptional social, literary, and scientific attainments, and at the time of her death was engaged in preparing a biography of Sir John Burdon-Sanderson.

A TELEGRAM from the Governor of Hong-Kong to the Secretary of State for the Colonies stated that 2 cases of plague and 2 deaths were reported during the week ending July 3rd.

Sir Alan Reeve Manby, M.V.O., has been appointed Physician Extraordinary to the King.

THE CHELSEA HOSPITAL FOR WOMEN.—The Chelsea Hospital for Women has received from the Countess of Ilchester and the members of the ladies' committee £260, being the proceeds of the concert recently given at Holland House by kind permission of Mary, Countess of Ilchester.

THE CARNIVAL FÊTE IN AID OF KING'S COLLEGE HOSPITAL.—On the first day of this month a successful fête which had been organised on an unusually large scale was held at the Crystal Palace in aid of the fund for the removal of King's College Hospital to South London. The intention of the promoters was to infuse some of the carnival spirit into the proceedings, and both the variety of the costumes, which represented the life and occupations of many ages and countries, and the enthusiasm of their wearers, of whom the students of the hospital formed the central body, contributed largely to abolish the respectable dulness of the ordinary charitable bazaar. The stalls were many and were dressed with excellent effect, which resulted in an encouraging business of sales. There were many shows and performances, which included a variety concert provided by many popular artists, presentations of a scene from *Comus* and of Mr. Lang's English version of the Fifteenth Theocritan Idyll, both given in the Pompeian House by the Crystal Palace School of Art, and of a delicate Japanese pantomime by a talented and anonymous company of amateurs. In the grounds the Blackheath Harriers carried out a programme of cycling and athletic sports which led to the recording of some excellent times. There were also displays of wrestling, swimming, and life-saving, and the borough of Croydon met and beat the borough of Camberwell in a cricket match. The numerous attractions of the carnival were kept up all day and well into the evening, when a performance by the band of the Coldstream Guards and a brilliant firework display brought to a close a function which should substantially increase the resources of the King's College Hospital Removal Fund.

# A MEDICO-LEGAL CASE.

BY WALTER H. HAW, B.A., M.R.C.S. ENG., L.S.A.

ON Dec. 19th, 1908, by order of the resident magistrate of Knysna, Cape Colony, I proceeded to a farm 11 miles away for the purpose of performing a necropsy upon the body of a female infant who was reported to have died on the same morning. On arrival I found the dead body of a female child lying on a bed in the back bedroom of the farmhouse. The father informed me that the child was his, that she was aged 10½ months, and he gave me the following history. At about 8 A.M. on Dec. 19th he and his wife set out for Knysna, leaving a coloured servant girl in charge of the farm and the children. Shortly after his arrival in the village a mounted messenger overtook him with the report that his infant child was dead. He returned home immediately and found the baby dead. The child had been in her usual good health up to the time of his departure from the farm in the morning.

The coloured servant girl stated that she was left in charge of the house and children during the absence of her master and mistress; that after their departure the child appeared quite well; that on her return to the house with the child in her arms after seeing them off, she put the child down on the dining-room floor to play, while she busied herself in the kitchen; and that she could keep her eye on the child from the kitchen. After a short time the baby cried, not as though ill or in pain, but to be taken up. She lifted her and gave her a feed of milk and meal, which had been prepared by the mother, put her to sleep, and lay her on a pillow on the bed in the back room. She herself then went to the river, some 100 yards away, to wash. The other children were playing near the wagon house. After some time, not more than an hour, she returned to the house, and on going into the room in which she had placed the child she found her lying in the same position in which she had been laid down, but very pale and not breathing. She (the maid) took her up, wetted her head, and tried to revive her, but in vain, so she immediately gave the alarm to the neighbours, who came at once, only to find the child dead. These were the main facts of the case, and nothing further was elicited at the inquest to shake the servant's story. She had been in her domestic position for more than a year, was generally a trustworthy girl, and there existed no motive for a criminal act.

The following is my post-mortem report. The examination was made about 12 hours after death. The body was that of a female white infant, aged 10½ months, clad only in a dress and chemise. It lay on a bed in the back bedroom of the house, on the right side as though asleep. The face and lips were pale, the latter slightly parted, showing the tongue slightly protruding between the incisor teeth. Several teeth had erupted. The eyes were closed and there was a little whitish mucus in the right nostril. The limbs were not flexed nor the hands clenched. The surface was cold and rigor mortis was present. On removal of the clothing an examination of the external appearances was made. The arms, chest, abdomen, and legs were pale in colour. On the right side of the back and upper part of the buttocks there was some reddish discolouration of the skin, due to early post-mortem changes and gravitation. In the scalp and head nothing abnormal was noted. There was no evidence of injury or disease. Nothing abnormal was noted in the neck. The neck was not broken, nor was there any skin mark surrounding it. The cervical glands were not enlarged, nor was the thyroid gland palpable. As regards the rest of the external surface of the body, it may be stated that the whole was normal in appearance, with the exception of the discolouration mentioned. Punctured wounds were especially looked for in vain. No indication anywhere of violence was noted. No fracture was detected in any of the bones.

On making an incision from the chin to the pubes it was seen that there was a good supply of subcutaneous fat; beyond this nothing abnormal was noted. On opening the abdomen the liver, which could easily be felt through the abdominal walls, presented. Its surface appeared healthy. The intestines also appeared healthy. The sigmoid flexure was tied in two places and divided. The large gut was then separated as far as the cæcum, tied here, and removed. It appeared healthy in every part and contained normal-looking

infant fæces. The appendix was normal. The small intestine was next separated up to the duodenum. It appeared healthy in structure and contents in every part. The mesenteric glands were not generally enlarged, but in the neighbourhood of the second part of the duodenum the bowel was surrounded by a collection of discrete lymphatic glands in the form of a bunch of grapes. Each gland was of about the size of a pea, and beyond the enlargement showed no signs of disease.

The stomach was next removed. It appeared healthy externally, and contained thick whitish milky-looking material, which had no smell. There was neither congestion nor inflammation of the stomach. The pancreas was normal and the spleen also, except in the colour, which was darker than usual, and on section the cut surface appeared darker and softer than normal, and granular in appearance from enlargement of the Malpighian corpuscles. The kidneys were next removed, and beyond being dark in colour and congested showed no disease. The capsule stripped readily. The rest of the structures in the abdominal cavity and in the region of the spinal column appeared normal.

On removing the sternum the thymus gland appeared, composed of two lobes, which rested on the pericardium, to which they were adherent, but were easily dissected off. These lobes almost concealed the front of the pericardium. The gland itself looked normal; it was not weighed. Beneath the thymus was the sac of the pericardium, with the lungs on each side, reddish-pink in colour. On opening the sac I found some amber-coloured fluid therein, but no sign of disease. The heart was not enlarged; the right ventricle was soft and flabby, while the left was firm and contracted. No disease was detected in connexion with the chambers, valves, and great and small vessels. The veins, innominate, superior and inferior cava were full of dark fluid blood, but not engorged. The chambers of the heart and pulmonary artery were empty. No disease existed in the lungs. Some whitish frothy mucus was expressed from the bronchi. The trachea and bronchi were also normal; the former was opened upwards to the larynx and the finger passed from the mouth into it. No foreign body or disease was found either here or in the back of the pharynx. There was no fluid in the pleural cavities. No ecchymoses were seen on the surface of the lungs or on the pleura lining the inner surfaces of the ribs. No enlarged glands were seen at the roots of the lungs.

The head was now opened. On reflection of the scalp the tissues were found to be pale, and there was no engorgement of vessels at any part. The bones of the skull were normal, the anterior fontanelle almost closed, an area of the size of a shilling remaining. The dura mater was normal, and nothing abnormal was noted in the pia mater and other structures of the brain, including the upper part of the spinal cord. The spinal canal was not opened. This completed the examination made.

In view of the circumstances under which death occurred, although there were no naked-eye symptoms of poisoning, I sent the contents of the stomach and bowels to headquarters for examination, reserving my opinion until after the receipt of the report. Later a communication was received asking for more definite information regarding the possibility of poisoning, as it was quite unlikely that a coloured servant girl would be in possession of one of the rapidly acting poisons. As no information on the point could be supplied, I formulated my opinion as follows:—

In this case the possibilities to be considered are: 1. Death from violence, including suffocation, homicidal or accidental. 2. Death from poisoning by a rapidly acting poison. 3. Death from natural causes.

1. *Death from violence, &c.*—Neither external nor internal evidence was discovered suggesting the possibility of any form of violence having been inflicted on the body. As regards suffocation, the evidence, to my mind, is not sufficient to warrant this conclusion. The only suggestive appearances were the presence of the tongue between the incisor teeth, and the presence of blood in the veins leading to the right heart, and congestion of the kidneys. The pulmonary artery and right chambers of the heart were empty. There were no subpleural ecchymoses, no congestion of trachea or bronchi, and no engorgement of the cerebral vessels.

2. *Death from poisoning by a rapidly acting poison.*—There is no evidence of such a poison being either in the house or in possession of the servant in charge of the child. There were certainly no post-mortem signs of death by poison, internally administered or subcutaneously injected (snake-bite).

3. *Death from natural causes.*—The history of the deceased shows that she was apparently in good health up to one hour before she was found dead. The result of the necropsy apparently bore out this history, for I was unable to find naked-eye evidence of disease in the ordinary acceptation of the term, in any of the vital organs of the body.

I wish, however, to direct attention to some of the post-mortem findings. (*a*) The thymus gland: This gland appeared larger than is to be expected at this age. It consisted of two lobes which rested on the front of the pericardium like an apron, and required to be dissected off. It did not, however, extend upwards into the neck and could not by any possibility have exercised pressure on the trachea. It was not weighed. (*b*) The bunch of enlarged lymphatic glands around the duodenum. (*c*) The flabby condition of the right ventricle, while the left was firm. (*d*) Congestion and dark colour of the kidneys. (*e*) Enlargement of the Malpighian corpuscles of the spleen. (*f*) Thick pad of subcutaneous fat.

In the article on Status Lymphaticus in Green's Encyclopædia recently issued (Vol. IX., p. 329) this condition is defined as one in which the thymus gland and lymphoid tissue generally are hypertrophied, associated with diminished power of resistance to infection and injuries and a liability to sudden death. On p. 330 it is stated that the condition is not suspected till death occurs with startling suddenness. On p. 331 are these words under the heading "Medico-legal": "In cases of sudden death in infants and young people an enlarged thymus and the other signs of lymphatism found post mortem are *primâ facie* evidence of death from natural causes. A number of cases are on record where nursemaids and relatives have been charged with suffocating or fatally maltreating children, the true cause of death found at autopsy being lymphatism."

In an article on this condition in THE LANCET of Dec. 26th, 1908, it is stated that death, though commonest between the ages of 15 and 18 years, has been known as young as one year and even younger, and as old as 50 years. The necropsies on five cases are described, and among other findings the following are noted as occurring among the various cases. Enlarged thymus; right chambers of heart thin-walled and flaccid, left normal; abundance of fat; splenic corpuscles prominent; kidneys injected; heart empty of blood; mesenteric glands enlarged. The writer of this article states further that the status lymphaticus is undoubtedly a much more common condition than is generally supposed, and in children and young adults probably accounts for nearly all the cases of sudden death in which the cause is somewhat obscure.

In default of the discovery of any other cause for the death of this child I am inclined to the opinion that the case was one of sudden death occurring in the course of the condition known as status lymphaticus.

Finally, the whole case was referred back to the resident magistrate for the purpose of giving a verdict in accordance with the evidence, analysis of the contents of the stomach and bowels being omitted. The verdict was "Death from natural causes" (lymphatism).

## THE OFFICIAL INTERNATIONAL SANITARY CONFERENCES AND THE INTERNATIONAL OFFICE OF PUBLIC HYGIENE.

FROM time to time, ever since 1851, official International Sanitary Conferences have been held. These were not gatherings of men of science for the purpose of debating matters affecting public health, but of diplomatists and others, such as the members of ministerial departments or chief medical advisers of various governments. The object was to come to some agreement and ultimately to draft international treaties in regard to the measures that could be taken against the spread from one nation to another of epidemic disease. At first the results were of an academic character and the meetings took place at rare intervals. Eight years

elapsed between the first and second conference, which likewise met in Paris in 1859. Then other meetings of this description were held at Constantinople in 1866, at Vienna in 1874, at Washington in 1881, at Rome in 1885, and at Vienna in 1892. By that time these conferences were no longer formal gatherings, but very important international treaties resulted from them, dealing more especially with such diseases as plague and cholera and modifying the ancient methods of quarantine that used to be imposed. Then when the cholera actually broke out in Europe these official conferences met frequently. Thus there was another conference at Dresden in 1893 and at Paris in 1894. It was at Venice in 1897 that a General International Convention was proposed. Out of a total of 11 conferences, the last five had drawn up international treaties, and now it was thought desirable to codify these separate agreements. This was finally accomplished at the Conference held in Paris in 1903. Thus we at last obtained an international law. It was divided into six chapters and 184 clauses, and bore the date of Dec. 3rd, 1903. All this we explained at the time, giving, of course, fuller details.[1]

Further, we also showed that to carry out the regulations which the majority of civilised nations had now agreed to apply it was necessary to convey information swiftly, notably with respect to the occurrence of epidemic disease. For this purpose it was decided to establish an International Health Office to collect and forward all such information to the contracting Governments. The Austrian, British, and German Governments, however, made some reservations. Perhaps the most valid objection was that the nation which was most accurate and prompt in sending information of the outbreak of epidemic disease would suffer the most from the restrictive measures that might be imposed. The proposal was excellent in principle, but to be worked fairly every nation concerned must have its vital statistics prepared with equal accuracy and forwarded with similar regularity. Also, in a few of the nations concerned, the compulsory notification of some of the diseases in question was not yet imposed. Thus it comes about that though the Health Office was theoretically approved as far back as December, 1903, it is only at the commencement of the present year that the scheme has been carried out in practice.

The International Health Office is not merely a centre for the collection of statistics and the issuing of warnings; it has also for mission to collect all useful information concerning the measures taken and the laws adopted in the different countries bearing upon the preservation of public health. Naturally it follows that, having obtained such information, it must be distributed among the various nations that have signed the international treaty, and must also be held at the disposal of such other nations as may ultimately be willing to fall into line with those countries that have already organised themselves internationally. For such a purpose no better method could be found than to issue periodically an official bulletin, where the information obtained could be printed and preserved in a form that is at once compact and of easy access. At present these bulletins are appearing once a month. They are entitled *Bulletin de l'Office International d'Hygiène Publique*, and are published at 195, Boulevard Saint Germain, Paris.

The first number appeared in January last and explains that the permanent International Committee, appointed according to an agreement between the Governments which signed the understanding or arrangement concluded at Rome on Dec. 9th, 1907, met in Paris for the first time on Nov. 4th, 1908. This committee consists of the following representatives:—Belgium: M. O. Velche, general director of the Health and Hygiene Department at the Royal Ministry of the Interior and of Hygiene. Brazil: Dr. Oswaldo Gonçalves Cruz, general director of Public Health at Rio de Janeiro. Egypt: Dr. Marc Armand Ruffer, President of the Maritime and Quarantine Council of Egypt. Spain: Don Francisco Murillo y Palacios, chief of a section at the Alphonso XIII. National Institute of Hygiene. United States of America: Dr. S. B. Grubbs of the United States Public Health and Marine Hospital Bureau. France: M. Barrère, ambassador of the French Republic at Rome. Great Britain: Dr. Theodore Thomson, medical inspector of the Local Government Board. British India: Sir Benjamin Franklin, K.C.I.E., Surgeon-General. Italy: Dr. R. Santoliquido, Director-General of the Royal Services of Hygiene. Russia: Dr. N. Freyberg, Councillor of State. Servia: Dr. Petrovitch. Switzerland: Dr. F. Schmid, director of the Federal Sanitary Bureau. Tunis: M. Harismendy, Consul of France.

The committee elected Dr. Santoliquido as its President and appointed M. Jacques de Cazotte as director of the office to be established in Paris, with Dr. Pottevin, who is director of the Bureau d'Hygiène at Havre, as general secretary. The committee thus formed at once issued a circular to the nationalities that support the International Office of Public Hygiene, urging the necessity, in view of the recent construction of railways between Medina, Beyrout, and Caiffa, of amending and strengthening the rules in regard to Mecca pilgrimages. Then follows, in the first number of the *Bulletin*, the full text of the circular issued on Jan. 30th, 1909, by the director of the International Office to all the participating States, enumerating the sort of information which it has been deemed desirable to collect. If the response made is satisfactory, then the office will bring about a very useful international centralisation of information and news, particularly as the office desires to obtain "not only the text of the laws and regulations that are actually applied, but also some account of the public works carried out and the technical solutions adopted either as experiments or permanently" by local or central authorities in regard to all sanitary undertakings such as drainage, disposal of refuse, abattoirs, cemeteries, water-supply, dwellings, schools, factories, the protection of the health of the working classes, and so on.

After this the actual text of the International Sanitary Convention signed in Paris on Dec. 3rd, 1903, and ratified on April 6th, 1907, is given. The nations which ratified the convention were Germany, Austro-Hungary, Belgium, Brazil, Spain, United States of America, France, Great Britain, Italy, Luxembourg, Montenegro, Holland, Persia, Roumania, Russia, Switzerland, and Egypt. The Powers that subsequently also approved were Norway, Sweden, Great Britain (on behalf of British India), Jamaica, the West Indian Islands, Falkland Islands, Gambia, Southern Nigeria, and the Orange River Colony. This treaty and the documents annexed thereto fill about half the first number of the *Bulletin* issued by the office. Then follow the official report of the prophylactic measures taken against yellow fever at Rio de Janeiro and the report of the Commission appointed in 1905 by the Secretary of State for India, the Royal Society, and the Lister Institute to investigate the prevalence of plague in India. This latter very important document, describing the experiments that demonstrated how fleas from infected rats rather than mere personal contact convey plague, will be read throughout the world with the keenest interest. At the end of the *Bulletin* there are brief notices of various publications, and these include the articles which appeared in THE LANCET in the autumn of last year on the Sanitary Defence of the Hedjaz Railway, written by the British delegate to the Sanitary Council at Constantinople.

The second number of the *Bulletin* contains another circular addressed by the president of the International Committee to the Ministers of Foreign Affairs of all the nations, on the necessity of protecting Mediterranean ports from cholera and plague, as the danger is now much greater since the construction of the new railway between Beyrout and Caiffa. For this purpose the fact that Turkey has accepted the International Convention of 1903 is most opportune, and it is now necessary to devise better regulations either by diplomatic negotiations or the convocation of another International Conference. Further texts of international agreements are given, as also details of the adhesion of Peru to the International Convention. After this there is information concerning laws recently enacted in Italy to prevent the spread of malarial or paludian fever; and there is a long notice of various publications, including the report of the British Royal Commission, appointed on May 7th, 1898, to investigate various processes for sewage disposal.

The third number gives the text of the French Ministerial decree of February, 1909, in regard to tuberculous cattle, stipulating that all contaminated meat shall be destroyed and the owner compensated. After this there are important and interesting details showing the measures taken in Belgium to combat the terrible epidemics of ankylostomiasis

[1] See THE LANCET, July 9th, 1904.

which had spread among miners. In 1904 it was estimated that 25 per cent. of the pitmen were suffering from this disease, and the proportion of sickness was reduced to 8 per cent. in 1907. This excellent result was obtained by the systematic examination of the motions, so as to ascertain positively how many miners were infected. Then these men were isolated and treated, and compensation was paid until they were convalescent. At the surface of the mines, as near as possible to the mouth of the pit, latrines in the proportion of one seat for every 25 pit-men were provided. In the pits moveable pails, with lids that closed hermetically, were supplied. The Provincial Council of Liege established a special dispensary and paid 1.50 francs per day to every miner who consented to be properly treated and to remain in the dispensary as long as necessary. The system, therefore, consists of general sanitary improvements within the mines, and of preventing the descent into the mines of men who are infected. For this latter purpose it was necessary to compensate financially the miners for the loss of their wages. Then the report on the experiments made for the city of Paris on the sterilising of potable water by the use of ozone is given, from which it would seem that the *de Frise* process gave the best results. This was especially the case when the water was artificially infected; 9860 bacteria per cubic centimetre were reduced to 1·5, and 4,429,000 coli bacilli were reduced to 40; thus, as the report says, the coli bacilli are killed in the proportion of 99,999 out of 100,000.

The fourth number of the *Bulletin* announces the acceptance by the Mexican Republic of the International Convention, so that the number of nations which join in the general agreement seems to increase every month. We have then the text of the Sanitary Convention signed at Washington on Oct. 14th, 1905, between the South and Central American Republics and the United States of America. It deals with cholera, plague, and yellow fever. This is followed by an excellent series of coloured maps and charts giving the history of the present cholera epidemic in Russia. The coloured maps illustrate the distribution and the severity of the epidemic in Russia during the years 1907 and 1908. The report which accompanies these details shows that the authorities have realised that one of the first protective measures to be taken is the establishment of popular kitchens, so that the poorest classes may have sufficient wholesome food. Thus, at St. Petersburg dinners which cost 12 copecks (about 3½*d.*) are sold for 6 copecks; at the same time efforts are being made to improve the water-supply of the capital.

Such are some of the subjects treated in the *Bulletin* published every month by the International Office, which is now, at last, in working order. There is also in every issue a complete list of the cases of cholera, plague, and yellow fever notified from all parts of the world. Many other questions, besides those mentioned, have already been touched upon, and there can be no doubt that the *Bulletin* will constitute all the more valuable a record of sanitary progress and endeavour, as it is absolutely international in its character.

## COMPLIMENTARY DINNER TO SIR FELIX SEMON.

A COMPLIMENTARY banquet was given to Sir Felix Semon, on the occasion of his retirement from practice, at the Whitehall Rooms, London, on July 2nd. The banquet was attended by a great gathering of friends and admirers of Sir Felix Semon, and amongst those present were the Duke of Fife, Count Metternich, Lady Semon, Mr. H. T. Butlin (in the chair), Mrs. George Alexander, Sir Squire and Lady Bancroft, Sir Anderson Critchett, Lady Critchett, Sir J. Dewar, Lady Dewar, Dr. J. Dundas Grant and Mrs. Grant, Dr. F. de Havilland Hall and Mrs. de Havilland Hall, Sir Hubert von Herkomer and Lady Herkomer, Sir Victor Horsley and Lady Horsley, Mr. Rufus Isaacs, M.P., Dr. H. Macnaughton-Jones, Dr. H. S. Birkett, Dr. G. Finder, Sir George Lewis, Sir Herbert Beerbohm Tree, Sir James Reid, Dr. R. H Scanes Spicer and Mrs. Scanes Spicer, Sir Edgar Speyer and Lady Speyer, Mr. Louis C. Taylor, Mr. H. Tilley and Mrs. Tilley, and the three honorary secretaries, Mr. A. M. Mond, M.P., Dr. H. J. Davis, and Dr. P. Watson Williams. During the progress of the banquet the orchestra played the "St. Quentin March," by Sir Felix Semon; and "Snowflakes Waltz," by Mr. Percy Semon. Later in the evening some old friends of Sir Felix Semon furnished a musical programme, including Sir Felix Semon's "Magyar Song," and Mr. Percy Semon's song, entitled "Canada," which was rendered in a most charming and artistic manner by Lady Semon.

The CHAIRMAN, in proposing the toast "The Guest of the Evening," related the history of the life of Sir Felix Semon in London and described how in the "seventies" of the last century, speaking generally, specialties were abhorred by the leading members of the medical profession. Sir Felix Semon came to London armed with his German degree in medicine and not knowing a word of English. He visited the Hospital for Diseases of the Throat in Golden-square and spent a large part of his time there, subsequently receiving the appointment of clinical assistant. In 1876 he obtained the qualification of M.R.C.P. and in 1877 settled down to practise in London. Through his tact and courage Sir Felix Semon procured the recognition of laryngology as a subject at the International Medical Congress held in London in 1880, and in 1881 he became physician to the department for diseases of the throat at St. Thomas's Hospital and occupied that post for 15 years. In 1885 the diploma of Fellow of the Royal College of Physicians of London was awarded to him and he was very active in founding the Laryngological Society of London. The banquet that night was the natural consequence of a brave fight to success by Sir Felix Semon through unusual difficulty. He was proud to announce that there was actually at that moment a Sir Felix Semon fund of sufficient value to establish a lectureship or scholarship in laryngology. The chairman concluded with a description of the letters, messages, telegrams, and addresses sent to Sir Felix Semon from Germany, Hungary, Austria, Russia, Scandinavia, Denmark, the Low Countries, France, Italy, Spain, and America, all breathing the same spirit of gratitude and affection in speaking of the services that Sir Felix Semon had rendered to the cause of laryngology.

Dr. DUNDAS GRANT, President of the Section of Laryngology of the Royal Society of Medicine, presented Sir Felix Semon with an album of photographs of British laryngologists. The album contained a prefatory dedication embodying a short but sincere expression of their feelings towards Sir Felix Semon.

Dr. H. S. BIRKETT (Montreal, Canada), ex-President of the American Laryngological Association, made a presentation from some medical friends to Lady Semon.

Sir HERBERT BEERBOHM TREE presented Sir Felix Semon with an album containing photographs of friends in the dramatic profession. When handing the album to Sir Felix Semon, Sir Herbert Beerbohm Tree said that he felt proud to be the bearer of the album containing the portraits of all those of his profession whom Sir Felix Semon had attended with such unvarying ability and devotion.

Sir HUBERT VON HERKOMER referred to the exploits of Sir Felix Semon when serving in the German army as a Uhlan, and wished Sir Felix and Lady Semon a happy voyage in their forthcoming journey round the world.

After Mr. ALFRED MOND, M.P., had spoken of the virtues and acquirements of Sir Felix Semon, Dr. G. FINDER of Berlin announced that he had been deputed by the Laryngological Society of Berlin to express its sincere good wishes to its honorary member Sir Felix Semon and also to Lady Semon. He was sure that men like Sir Felix Semon, who knew all that was best of the cultured minds of the two powerful and closely related nations of Great Britain and Germany, were in the best position to promote and to assure those intimate relations forming a bond of interest between the two countries which they all so earnestly desired to strengthen.

Sir FELIX SEMON began his reply by admitting that he found himself in a turmoil of conflicting emotions; the strongest feeling that possessed him, however, was one of deep and sincere gratitude for the honour that had been done to him, and he was loudly cheered when he stated that His Majesty the King had been graciously pleased to signify his pleasure that he (Sir Felix Semon) should continue to be one of his physicians extraordinary. In the course of his speech he referred particularly to the satisfaction with which he had received the information that a scholarship was to be founded in his name for his own specialty.

On resuming his seat Sir Felix Semon was greeted with tremendous cheering and the company sang "For he's a jolly good fellow" and its equivalent in German.

## METROPOLITAN HOSPITAL SUNDAY FUND.

THE following are some of the principal amounts, additional to those already announced in THE LANCET, received at the Mansion House or notified directly to us as having been collected on behalf of the Metropolitan Hospital Sunday Fund up to Monday, when the sum paid in was about £34,000 :—

| | £ | s. | d. |
|---|---|---|---|
| Christ Church, Lancaster-gate ... ... ... ... ... | 1001 | 0 | 0 |
| St. Columba, Pont-street ... ... ... ... ... ... | 241 | 0 | 0 |
| Westminster Chapel, Buckingham Gate ... ... ... | 209 | 0 | 0 |
| St. Stephen's, South Dulwich ... ... ... ... ... | 170 | 0 | 0 |
| St. Mark's, North Audley-street ... ... ... ... ... | 121 | 0 | 0 |
| Union Chapel, Islington ... ... ... ... ... ... | 118 | 0 | 0 |
| Brompton Parish Church ... ... ... ... ... ... | 111 | 0 | 0 |
| St. Andrew's, Leytonstone ... ... ... ... ... ... | 110 | 0 | 0 |
| St. Peter's, Bayswater... ... ... ... ... ... ... | 104 | 0 | 0 |
| St. Paul's, Beckenham ... ... ... ... ... ... | 102 | 0 | 0 |
| St. Leonard's and All Saints', Streatham ... ... ... | 101 | 0 | 0 |
| St. Margaret's, Westminster ... ... ... ... ... | 85 | 0 | 0 |
| Beckenham Parish Church ... ... ... ... ... ... | 84 | 0 | 0 |
| Christ Church, Crouch End ... ... ... ... ... ... | 64 | 0 | 0 |
| Lewisham Parish Church ... ... ... ... ... ... | 60 | 0 | 0 |
| Stamford Hill Congregational Church ... ... ... ... | 58 | 0 | 0 |
| Christ Church, Hampstead ... ... ... ... ... ... | 55 | 0 | 0 |
| St. Luke's, Redcliffe-square ... ... ... ... ... | 54 | 0 | 0 |
| Reigate Parish Church ... ... ... ... ... ... | 50 | 0 | 0 |
| Dutch Church, Austin Friars ... ... ... ... ... | 50 | 0 | 0 |
| Clapham Parish Church ... ... ... ... ... ... | 48 | 0 | 0 |
| Hornchurch Parish Church and Mission... ... ... ... | 42 | 0 | 0 |
| St. John's, Notting Hill ... ... ... ... ... ... | 42 | 0 | 0 |
| St. Mark's, Surbiton ... ... ... ... ... ... ... | 41 | 0 | 0 |
| St. Alban's, Holborn ... ... ... ... ... ... ... | 39 | 0 | 0 |
| St. Augustine's, Honor Oak Park ... ... ... ... ... | 38 | 0 | 0 |
| St. Paul's, Camden-square ... ... ... ... ... ... | 38 | 0 | 0 |
| St. Saviour's, Paddington ... ... ... ... ... ... | 37 | 0 | 0 |
| St. Matthew's, Brixton ... ... ... ... ... ... | 36 | 0 | 0 |
| Trinity Presbyterian Church, Bromley ... ... ... ... | 34 | 0 | 0 |
| St. Saviour's, Brixton ... ... ... ... ... ... ... | 34 | 0 | 0 |
| St. George's, Campden Hill ... ... ... ... ... ... | 33 | 0 | 0 |
| St. Andrew's, Stockwell ... ... ... ... ... ... | 32 | 0 | 0 |
| St. John's, Upper Holloway ... ... ... ... ... ... | 31 | 0 | 0 |
| All Saints', Blackheath ... ... ... ... ... ... | 31 | 0 | 0 |
| Streatham Hill Congregational Church ... ... ... ... | 30 | 0 | 0 |
| Emmanuel Church, Hampstead ... ... ... ... ... | 29 | 0 | 0 |
| St. Mary's, Acton ... ... ... ... ... ... ... | 29 | 0 | 0 |
| St. James's, Norlands ... ... ... ... ... ... | 29 | 0 | 0 |
| Wilmington Parish Church ... ... ... ... ... ... | 29 | 0 | 0 |
| St. Mary's, Putney ... ... ... ... ... ... | 29 | 0 | 0 |
| St. Mary's, Stoke Newington ... ... ... ... ... | 28 | 0 | 0 |
| Westminster Cathedral ... ... ... ... ... ... | 28 | 0 | 0 |
| Ewell Parish Church ... ... ... ... ... ... ... | 28 | 0 | 0 |
| Chipping Barnet Parish Church ... ... ... ... ... | 28 | 0 | 0 |
| St. Clement Danes ... ... ... ... ... ... ... | 28 | 0 | 0 |
| St. Mary Magdalene, Peckham ... ... ... ... ... | 28 | 0 | 0 |
| All Saints' and Emmanuel, Leyton ... ... ... ... | 27 | 0 | 0 |
| Willesden Presbyterian Church ... ... ... ... ... | 27 | 0 | 0 |
| St. Barnabas, Dulwich ... ... ... ... ... ... | 27 | 0 | 0 |
| All Saints', Friern Barnet ... ... ... ... ... ... | 27 | 0 | 0 |
| St. Andrew's, Streatham ... ... ... ... ... ... | 27 | 0 | 0 |
| St. Barnabas, Clapham ... ... ... ... ... ... | 27 | 0 | 0 |
| Gordon-square Church ... ... ... ... ... ... | 26 | 0 | 0 |
| Christ Church, East Greenwich ... ... ... ... ... | 26 | 0 | 0 |
| Christ Church, Woburn-square ... ... ... ... ... | 26 | 0 | 0 |
| Effra-road Unitarian Church, Brixton ... ... ... ... | 25 | 0 | 0 |
| Park Chapel, Crouch End ... ... ... ... ... ... | 25 | 0 | 0 |
| Christ Church, Ealing... ... ... ... ... ... ... | 25 | 0 | 0 |
| Hendon Parish Church ... ... ... ... ... ... | 25 | 0 | 0 |
| Mr. H. Dent Brocklehurst ... ... ... ... ... ... | 25 | 0 | 0 |
| New Court Church, Tollington-park ... ... ... ... | 25 | 0 | 0 |
| St. Clement's, Notting Hill ... ... ... ... ... ... | 25 | 0 | 0 |
| St. George's, Tufnell-park ... ... ... ... ... ... | 25 | 0 | 0 |
| St. Anne's, Bermondsey ... ... ... ... ... ... | 25 | 0 | 0 |

## ROYAL COLLEGE OF SURGEONS OF ENGLAND.

### ELECTION OF MEMBERS OF COUNCIL.

ON July 1st a meeting of Fellows of the Royal College of Surgeons was held at the College for the election of three members of Council, with the following result :—

| | Votes. | Plumpers. |
|---|---|---|
| Sir W. WATSON CHEYNE ... ... | 420 ..... | 8 |
| Mr. W. HARRISON CRIPPS ... | 385 ..... | 46 |
| Mr. CLEMENT LUCAS ... ... | 356 ..... | 70 |
| Mr. BLAND-SUTTON ... ... ... | 333 ..... | 39 |
| Mr. JESSOP ... ... ... ... ... | 328 ..... | 35 |
| Mr. BALLANCE... ... ... ... ... | 261 ..... | 23 |
| Mr. MAYO ROBSON ... ... ... ... | 205 ..... | 5 |

The PRESIDENT declared Sir W. Watson Cheyne and Mr. Lucas to be re-elected and Mr. Harrison Cripps to be elected members of the Council.

In all 981 Fellows voted, eight only voting in person, but 11 voting papers had to be rejected, nine arriving after the election had commenced and two being invalid.

Mr. H. J. Price and Mr. W. Haig Brodie acted as scrutineers.

## ASYLUM REPORTS.

*Barnwood House Hospital for the Insane* (*Annual Report for the Year 1908*).—The average number of patients in residence for the year 1908 was 152. 31 patients were admitted. 25 patients were discharged, 11 of them having recovered. The recovery rate on the total number under treatment was 6·4 per cent. The deaths were seven in number, the rate on the average number resident being 4·60 per cent.

*Glasgow Royal Asylum* (*Annual Report for the Year 1908*).—At this asylum the average number resident was 442. The admissions numbered 127 and were about the average for the last five years. 45 patients recovered, being a percentage of 36 on the admissions. The percentage of deaths on the average number resident was 5·6, being a very low rate. Dr. L. R. Oswald, the medical superintendent, reports that fewer sleep-producing drugs are now given in the hospital than ever before. The best calmative and restorative is found to be fresh air, and there has been an extension of the tent treatment referred to in the report of last year.

*Kingseat Asylum, Aberdeen* (*Annual Report for the Year 1908*).—The admissions during this year numbered 103. The discharges during the year numbered 66, and the percentage of recoveries, calculated on the admissions, was 40·7. The deaths numbered 39, this giving a death-rate of 7·5 per cent. on the total under treatment. This asylum was modelled upon the asylum of Alt Scherbitz and consists of many villas or pavilions. In the model the gardens of these buildings are enclosed within railings or even in some cases within high walls. At Kingseat such defences appear to be found unnecessary, and the idea of not being shut in is said in itself to have a restraining effect upon the patients.

*Stirling District Lunacy Board* (*Report for the Year ending May 14th, 1908*).—The total number of admissions was 233, which is exactly the same as the number of admissions for a similar period ten years ago. During these ten years the average number of admissions was 252. It reached as high a figure as 274 in the year 1903 and as low as 241 in the year 1906. It would appear that the number of persons suffering from insanity who are annually sent to the asylum is certainly not rising and is probably falling. On the other hand, a disquieting feature is the continually increasing number of deaths from general paralysis. The number of deaths recorded is now four times greater than the average of 16 years ago. The percentage of recoveries calculated on the number of admissions was 40·7 per cent.; the percentage of deaths was 8·1 on the total number under treatment. Dr. G. M. Robertson, in his last report as medical superintendent of this asylum, points out how, during his administration, he has regarded every feature of asylum administration which was peculiar to asylums and which did not exist in hospitals as suspect. The vast majority of these features were traditions handed down from the prison prototype. Many had reasons for their existence, but when these were put to an experimental test it was found that as often as not they could now be ignored with perfect safety. In all cases, if they could not be abolished, they were replaced by others of a hospital character, or at least as near a hospital character as was possible in the circumstances. As a result the gain all round by the introduction of the hospital atmosphere has been incalculable, and we must heartily congratulate Dr. Robertson upon the application of a system which we wish could be universally adopted.

*Kent County Lunatic Asylums* (*Annual Report for the Year 1908*).—To the Barming Heath Asylum 431 patients were admitted. 141 patients were discharged recovered, yielding a recovery rate of 32·7 per cent. on the total admissions. There were 176 deaths, being 11·1 per cent. on the average number resident. The medical superintendent, Dr. H. Wolseley-Lewis, accentuates the findings of the Royal Commission on the Feeble-Minded with illustrations from the asylum. Of the admissions to Barming Heath

21·29 per cent. were over 60 years of age. Provision of asylum accommodation is usually followed by a rise in the number of certified persons, and the payment of the four shilling grant to the guardians creates a tendency to send paupers to asylums who otherwise would be kept in the workhouses. Dr. Wolseley-Lewis quotes a most apposite passage from the report of the Royal Commission to the effect that lunatic asylums are crowded with patients who do not require the careful hospital treatment that well-equipped asylums now afford and who might be treated in many other ways more economically and as efficiently. At Barming Heath 39·40 per cent. of the direct admissions had previously been discharged recovered. Of the 139 relapsed cases 83 were under 45 years of age (i.e., within the child-bearing age) and of these 38 were married. In 44 per cent. of the direct admissions hereditary predisposition was ascertained, notwithstanding the reticence and imperfect knowledge of the friends of the patients. A consideration of these facts forces us to the conclusion that some means should be taken to prevent these recurrent cases continuing their degenerate race and, according to Recommendation LVIII. of the Royal Commission, legal powers should be given for the permanent control of such persons.—At Chartham Asylum the average increase of patients steadily rises, the average increase for the years since 1902 being 21. The recovery rate is 24 per cent. The last decade showed a death-rate of 10 per cent.

*St. Andrew's Hospital for Mental Diseases, Northampton (Annual Report for the Year 1908).*—The total number of patients under treatment at this hospital was 483. 23 persons were discharged recovered, the percentage of recoveries on the total number of admissions being 32·85. The percentage of deaths on the average number resident was 4·10.

## THE POOR-LAW MEDICAL OFFICERS' ASSOCIATION OF ENGLAND AND WALES.

THE annual meeting of the Poor-law Medical Officers Association of England and Wales was held on Tuesday last, July 6th, when the Lord Mayor of London presided at the opening of the proceedings which took place at the Guildhall.

The recent publication of the Reports of the Royal Commission on the Poor-laws and Relief of Distress made this meeting one of particular interest, having regard to the drastic propositions set forth by both the Majority and Minority Commissioners for dealing with the medical service of the Poor-law. Surgeon-General Evatt, the President of the association this year, in the course of his inaugural words, regretted the absence of a responsible central bureau of public health; when papers followed from Dr. Major Greenwood, Mrs. Sidney Webb, Dr. G. F. McCleary, Dr. F. S. Toogood, and Mr. C. S. Loch on various aspects of parochial medical assistance.

Dr. Major Greenwood then brought forward a motion in which it was declared (1) that in any system of Poor-law medical reform there must be a distinct medical service to attend to the sick State poor; (2) that the security of the ratepayer and the welfare of the suffering State poor imperatively demand the isolation of that class of the people requiring State assistance, so that the latter may be administered with a due regard to economy and may not tend to the pauperisation of the public by the granting of free medical attendance to a large portion of the community; and (3) that except in cases of emergency in thinly inhabited rural districts, where access to the relieving officer is difficult, all persons requiring State aid, medical or other, must first make application to a special officer, with whom should always rest the responsibility of deciding as to the right of the applicant to State assistance. These various motions were all adopted and became unanimous resolutions of the meeting.

### THE ANNUAL DINNER.

The annual dinner was held at the Waldorf Hotel, with the President, Surgeon-General G. J. H. Evatt, in the chair. The dinner was well attended and the honorary secretary, Dr. Major Greenwood, and the assistant honorary secretary, Mr. F. A. Greenwood, were most heartily congratulated on the successful result of their work. Amongst those present were Sir Walter Foster, M.P., Sir Dyce Duckworth, Sir Shirley F. Murphy, Mr. J. Smith Whitaker, Dr. S. M. Copeman, and Dr. R. Deane Sweeting. In proposing the toast of the "Poor-law Medical Officers' Association" Sir Walter Foster said the association did good work in taking up cases for investigation. They were on the eve of great changes, and care must be taken to keep local self-government in contact with Poor-law administration. Dr. Major Greenwood, in replying to the toast, said that he hoped the Poor-law medical officers would continue to remain a distinct service. Dr. W. A. Dingle (Mayor of Finsbury) proposed "The Corporation of the City of London," and declared he had been a district medical officer for 30 years, was satisfied with his position, and did not consider that he was underpaid. Alderman Sir Thomas Crosby, in replying, said that the corporation had existed for centuries and had always striven for liberty and progress not only for the City but also for the greater London outside. Mr. W. Holder (Hull), who submitted the toast of "The Local Government Board," spoke of its work in preventing the spread of disease. Dr. A. H. Downes, in responding, praised the sturdy independence of the part-time medical officer. Dr. A. Drury (Halifax) in proposing "The Royal Commissioners" responsible for the recent report upon Poor-law, said that they had agreed in one thing, and that was that though the Poor-law medical officers had done their work well in the circumstances and in the conditions, neverthess these conditions were so intolerable that the service was inefficient. He advocated that instead of demolishing the Poor-law medical service the existing machinery should be utilised. He did not think the matter would be settled for years to come. Mr. C. S. Loch, in responding, complained that in the medical profession there was a want of consistency of opinion, a want of unity of thought, and a want of steadiness of purpose. He hoped that the Poor-law Medical Officers' Association would come to some definite opinion on the matter and then would do itself the honour of sticking to it. The public want guidance, for no layman can understand the problem of medical relief. He hoped that the medical profession would evolve some firm line in regard to medical relief. The Rev. Prebendary Russell Wakefield also replied and rendered a graceful tribute to the medical profession for their work among the poor. The toast of "Our Guests" was eloquently put by the chairman and was duly acknowledged by Sir Dyce Duckworth, Dr. J. A. Macdonald, Mr. Sidney Webb and Mrs. Sidney Webb.

## VITAL STATISTICS.

### HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8565 births and 3733 deaths were registered during the week ending July 3rd. The annual rate of mortality in these towns, which had been equal to 12·6, 12·3, and 12·1 per 1000 in the three preceding weeks, further declined to 11·8 in the week under notice, and was lower than the recorded rate in any previous week of this year. During the 13 weeks of the past quarter the annual death-rate in these towns averaged 14·0 per 1000, against 14·9 and 13·7 in the corresponding quarters of 1907 and 1908; the mean rate in London during last quarter did not exceed 13·5, against 14·0 and 12·7 in the two preceding corresponding quarters. The lowest recorded annual death-rates in the 76 towns last week were 3·8 in Hastings, 4·4 in Hornsey, 4·5 in Handsworth, and 4·9 in Stockton-on-Tees; the rates in the other towns ranged upwards, however, to 17·3 in Wigan and in Middlesbrough, 19·5 in Coventry, and 19·6 in Swansea. In London the recorded death-rate last week did not exceed 11·1, and was lower than in any previous week of this year. The 3733 deaths in the 76 towns from all causes last week showed a further decline of 71 from the declining numbers in recent weeks, and included 324 which were referred to the principal epidemic diseases, against 393, 364, and 353 in the three previous weeks; of these 324 deaths, 129 resulted from measles, 70 from whooping-cough, 52 from diarrhœa, 32 from scarlet fever, 28 from diphtheria, and 13 from "fever" (principally enteric), but not one from small-pox. The 324 deaths from these epidemic diseases last week were equal to an annual

rate of 1·0 per 1000, against 1·2 and 1·1 in the two preceding weeks. No death from any of these epidemic diseases was registered last week in Leicester, Derby, Tottenham, Reading, Devonport, or in 12 other smaller towns; the annual death-rates therefrom ranged upwards, however, to 2·7 in Newport, 3·8 in Bootle, 4·6 in Coventry, and 5·2 in Wigan. The fatal cases of measles in the 76 towns, which had been 186, 173, and 159 in the three preceding weeks, further declined last week to 129, a lower number than in any previous week of this year; they caused, however, annual death-rates last week ranging upwards to 2·3 in Bootle, 2·7 in Newport, 2·9 in Wigan, and 4·6 in Coventry. The 70 deaths from whooping-cough showed a further slight increase upon recent weekly numbers, and caused rates equal to 1·1 in West Ham, 1·3 in Southampton, and 1·5 in Middlesbrough. The deaths attributed to diarrhœa were fewer by six than those in the previous week, and were considerably below the average for the corresponding week. The 32 fatal cases of scarlet fever also showed a slight decline, but included eight in Manchester and Salford, five in Liverpool and Bootle, and three in Gateshead. The deaths from diphtheria which had been 28 and 34 in the two previous weeks declined again to 28 last week, of which ten occurred in London and its suburban districts, three in Bristol, three in Manchester and Salford, and two in Hull. The 13 deaths referred to "fever" in the 76 towns only exceeded by two the low number in the previous week. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and in the London Fever Hospital, which had been steadily increased in the four preceding weeks from 2228 to 2517, had further risen to 2587 on Saturday last; 390 new cases of this disease were admitted to these hospitals during last week, against 468 and 368 in the two preceding weeks. The registered deaths in London referred to pneumonia and other diseases of the respiratory organs, which had been 135 and 155 in the two previous weeks, further increased to 158 in the week under notice, and exceeded by 19 the corrected average number in the corresponding week of the five years 1904–08. The deaths in London directly referred to influenza which, had been six and 13 in the two preceding weeks declined again last week to 11. The causes of 33, or 0·9 per cent., of the deaths registered last week in the 76 towns were not certified either by a registered medical practitioner or by a coroner. The causes of all the deaths registered during the week were again duly certified in Leeds, Bristol, West Ham, Newcastle-on-Tyne, Hull, Salford, and in 52 other smaller towns; the 33 uncertified causes of death in the 76 towns included six in Liverpool, five in Gateshead, and four in Birmingham.

### HEALTH OF SCOTCH TOWNS.

In eight of the principal Scotch towns 891 births and 477 deaths were registered during the week ending July 3rd. The annual rate of mortality in these towns, which had been equal to 15·5 and 12·7 per 1000 in the two preceding weeks, rose again to 13·3 in the week under notice. During the 13 weeks of last quarter the death-rate in these Scotch towns averaged 16·0 per 1000, while in the 76 large English towns the mean death-rate during the same period did not exceed 14·0. The death-rates last week in these Scotch towns ranged from 11·5 and 12·0 in Greenock and Aberdeen, to 14·2 in Dundee and 15·9 in Paisley. The 477 deaths from all causes in the eight towns showed an increase of 23 upon the low number returned in the previous week, and included 37 which were referred to the principal epidemic diseases, against 56 and 54 in the two preceding weeks. These 37 deaths were equal to an annual rate of 1·0 per 1000, against 1·6 and 1·5 in the two previous weeks, and corresponding with the rate last week from the same epidemic diseases in the 76 large English towns. Of the 37 deaths from these epidemic diseases in the Scotch towns, 13 resulted from whooping-cough, 11 from diarrhœa, five from measles, three from scarlet fever, three from diphtheria, and two from "fever," but not one from small-pox. The 13 fatal cases of whooping-cough showed a further decline of four from the numbers returned in recent weeks, and included six in Glasgow and four in Edinburgh. The deaths attributed to diarrhœa, which had been 15, 13, and 18 in the three preceding weeks, did not exceed 11 last week, of which four occurred in Glasgow, three in Aberdeen, and two in Dundee. The five fatal cases of measles showed a further decline of three from the numbers in the two preceding weeks, of which two were returned in Glasgow, and but one in Paisley, against three, ten, and four in the three previous weeks. Two each of the three deaths both from scarlet fever and diphtheria were registered last week in Glasgow. The two deaths referred to "fever," a decline of three from the number in the previous week, were both certified as cerebro-spinal meningitis, and both occurred in Glasgow. The deaths referred to diseases of the respiratory organs in the eight towns, which had steadily declined in the six preceding weeks from 109 to 64, rose again last week to 71, and exceeded the number in the corresponding week of last year by three. Of the deaths in the eight towns last week, 20 were referred to violence, including 12 in Glasgow. The causes of 21, or 4·4 per cent., of the deaths in the eight towns last week were uncertified; in the 76 English towns the proportion of uncertified causes of death last week did not exceed 0·9 per cent.

### HEALTH OF DUBLIN.

The annual rate of mortality in Dublin, which had been equal to 15·7 and 19·6 per 1000 in the two preceding weeks, declined again to 18·5 in the week ending July 3rd. During the 13 weeks of last quarter the death-rate in the city averaged 20·9 per 1000, whereas the mean rate during the same period did not exceed 13·5 in in London and 15·8 in Edinburgh. The 141 deaths of Dublin residents from all causes registered last week showed a decline of nine from the number in the previous week, and included 13 which were referred to the principal epidemic diseases, against ten and eight in the two preceding weeks. These 13 deaths were equal to an annual rate of 1·7 per 1000, the death-rate from these epidemic diseases being equal to but 0·8 in London and 0·9 in Edinburgh. Of the 13 deaths from these epidemic diseases in Dublin last week, five resulted from diarrhœa, four from whooping-cough, two from measles, and one each from scarlet fever and diphtheria, but not one either from "fever" or small-pox. The fatal cases of diarrhœa exceeded the number in any recent week, while those of whooping-cough showed a slight decline. The 141 deaths at all ages included 31 of infants under one year of age and 44 of persons aged upwards of 60 years; the deaths of elderly persons exceeded the numbers in recent weeks. Four inquest cases and two deaths from violence were registered during the week; and 60, or 42·6 per cent., of the deaths occurred in public institutions. All the causes of death registered in the city last week were duly certified either by a registered medical practitioner or by a coroner; in London the causes of all but one of the 1029 deaths last week were duly certified, and in Edinburgh 2·2 per cent. of the causes of death were uncertified.

## THE SERVICES.

### ROYAL ARMY MEDICAL CORPS.

Lieutenant-Colonel R. I. D. Hackett, Major J. Poe, Captain M. M. Lowsley, and Captain E. W. Siberry, have been ordered to South Africa for duty. Lieutenant-Colonel R. H. Firth, instructor at the School of Army Sanitation, at Aldershot, Major E. E. Powell, Captain C. W. Mainprice, Lieutenant R. D. P. King and Lieutenant A. L. Bostock have been placed under orders for duty in Northern India. Lieutenant-Colonel C. E. Nichol, D.S.O., Captain H. M. Morton, Captain H. C. R. Hime, Captain J. J. Churton, Lieutenant W. J. Tobin, and Lieutenant R. O'Kelly have been placed under orders for duty in Southern India. Major E. W. W. Cochrane has been ordered to Bermuda as sanitary officer, and Captain E. McDonnell has been ordered to Bermuda. Major J. D. Ferguson, D.S.O., has been ordered for duty at Sierra Leone. Major C. C. Fleming, D.S.O., has been appointed instructor at the Royal Army Medical Corps Training School at Aldershot, vice Major J. D. Ferguson,

who has been posted to the Cambridge Hospital, Aldershot, for duty.

TERRITORIAL FORCE.

*Royal Engineers.*

1st Wessex Field Company, Wessex Divisional Engineers: Surgeon-Major Joseph Fuller resigns his commission, and is granted permission to retain his rank and to wear the prescribed uniform (dated May 25th, 1909).

*Royal Army Medical Corps.*

2nd Home Counties Field Ambulance: Lieutenant David L. Hamilton to be Captain (dated April 1st, 1909).

2nd West Lancashire Field Ambulance: Walter Linney Hawksley to be Lieutenant (dated April 1st, 1908).

*Attached to Units other than Medical Units.*—Captain Conrad T. Green, to be Major (dated Sept. 21st, 1908). Major Kenneth W. I. Mackenzie resigns his commission, and is granted permission to retain his rank and to wear the prescribed uniform (dated April 25th, 1909). Alan Carpmael Ransford to be Lieutenant (dated Feb. 22nd, 1909). William Henry Newton to be Lieutenant (dated March 1st, 1909.)

DEATHS IN THE SERVICES.

Brigade-Surgeon-Lieutenant-Colonel George A. Maconachie, I.M.S. (retired), on June 26th, at his residence, Queen's-road, Aberdeen, in his 67th year. He entered the Indian Medical Service in 1867. He took part in the Abyssinian War and was present at the fall of Magdala. Subsequently he was appointed a professor in the Government Medical College, Bombay, and soon became principal. For more than 25 years he was a member of the Bombay Educational Department. He was also a member of the Bombay Municipal Corporation and a director of the Bombay Mechanics' Institution. He retired in 1891. In 1899 he was appointed lecturer in tropical medicine in the University of Aberdeen, which post he held for several years. He leaves a widow and an only son who is a member of the Indian Medical Service.

R.A.M.C. TERRITORIAL FORCE.

It is officially notified that in peace the responsibility for all matters, including mobilisation arrangements, connected with the Royal Army Medical Corps units and *personnel* of the Territorial Force will be vested in the administrative medical officers of divisions.

THE FRENCH ARMY MEDICAL COLLEGE.

The *Broad Arrow* in its issue of July 3rd gives some interesting particulars of the system adopted in France for the education of army medical officers. The École du Service de Santé, our contemporary points out, is the army cadet school through which the medical officers enter their service. This school is in Lyons. Before entering it cadets must put in one year of compulsory service with the colours and be students in medicine. Entry to the école is by competition at from 18 to 24 years of age. Competition is not very severe when the vacancies, some 50, occur annually. The period spent at the school is four years, and during that time an M.D. degree has to be taken. Military discipline and some military training have to be undergone. After graduating, commissions as med-aide-major, second-class, are granted, and the young men proceed on probation to the technical Army Medical College at the Val de Grace, Paris. Here they are instructed for eight months, and subsequently appointed to regiments. Promotion depends on service, seniority, selection, and in part by examinations.

THE HOSPITAL FOR INVALID GENTLEWOMEN.—This hospital, which was established at 90, Harley-street, 56 years ago by Viscountess Canning and Miss Florence Nightingale, and the useful work at which has been more than once mentioned in our columns, is closed for the present owing to the expiration of the lease of the old premises. But a new hospital is in course of construction in Lissongrove, and this, it is hoped, will be opened for the reception of patients towards the end of the year. But £5000 are still needed to complete the building and the equipment of the 32 proposed beds. For this purpose donations should be sent to Mr. W. C. Bridgeman, M.P., 13, Mansfield-street, W., who is acting as honorary treasurer to the rebuilding fund.

# Correspondence.

"Audi alteram partem."

## THE PROPOSED LEGISLATION IN REGARD TO ANÆSTHETICS.

*To the Editor of* THE LANCET.

SIR,—The question of legislation in regard to anæsthetics is passing through such an extraordinary phase that I feel bound to crave the courtesy of your columns again in order to direct the attention of the profession to the matter. It is exceedingly important that all medical men should understand the present position of this question, and as many of your readers may not have followed the recent developments which have been taking place I may perhaps be allowed to indicate the point which is now at issue. I need not enter again upon the arguments in favour of improving the present conditions under which anæsthetics are administered. It is now generally conceded that certain reforms are needed, and as your readers are doubtless aware, one of the most important of these reforms—I refer to the compulsory education of all medical students in anæsthetics—has already been initiated by the General Medical Council. Nor need I discuss again the question whether it is or is not expedient for our legislature to define by Act of Parliament who should and who should not administer an anæsthetic. Here again, the balance of opinion seems to be in favour of protecting the public against wholly uneducated persons, who, as the law now stands, may administer chloroform, cocaine, or any other anæsthetic to anyone who is sufficiently ignorant and confiding to submit himself to such treatment. Nor, lastly, need I dwell upon the question of including local (injected) anæsthetics in any legislative measure, for there seems to be complete unanimity as to the desirability of such a course. When the question of legislation was first mooted I confess I did not see how this side of the problem could adequately be dealt with; but as I fail to find any record of a fatality from cocaine or its allies in the hands of a registered dentist I am convinced that the public would be properly safeguarded by restricting the injection of these substances to registered medical or to registered dental practitioners, or to persons acting under their immediate direction or supervision.

For the purposes of the present letter, then, I would assume, firstly, that the reforms which I have already indicated in these pages are necessary; secondly, that it is expedient on public grounds to ask for legislation in regard to anæsthetics; and thirdly, that it is practicable and desirable to include local (injected) anæsthetics in any legislative measure which may be drafted and that such local anæsthetics should either be administered by medical or by dental practitioners. By these assumptions I shall, I think, be able to throw into relief the present important issue—viz., Who should, and who should not, administer general anæsthetics?

There are no less than four policies or lines of action before the profession each of which apparently has its advocates. The first policy is that which is outlined in the first of the three Bills which have now been drafted—the "General Anæsthetics Bill," which is under the consideration of the Departmental Committee now sitting at the Home Office. This policy has as its foundation the principle that when one person takes upon himself the responsibility of rendering another unconscious for a medical or surgical operation, act, or procedure, no matter what the anæsthetic or the operation, act, or procedure may be, he should possess a medical qualification. There are, however, certain provisos in the General Anæsthetics Bill, amongst which is one allowing dentists on the Register at the passing of the Act to continue to administer anæsthetics for dental operations. In the paper which I have just read before the British Dental Association at Birmingham I endeavoured to show that this policy is not only a perfectly practicable one, but that it is one which would raise rather than lower the position and prestige of the dental profession. Unfortunately I was unable to make much headway at this meeting although I had behind me no less an authority on dental politics than Mr. C. S. Tomes, and the President of the General Medical Council had in his address at the recent

opening of the Council expressed his personal acquiescence in the policy. I will not reiterate the arguments which I advanced at Birmingham, but I would refer those of your readers who may specially be interested in the subject to my paper in the Journal of the British Dental Association of June 15th last. I endeavoured to show that legislation limiting the administration of general anæsthetics to fully qualified medical practitioners, while not interfering with any privileges enjoyed by members of the dental profession now on the Register, would both elevate the professional position of the dentist and free him from the disastrous competition of quacks who now practise without any place on the Dental Register.

The second policy has as its characteristic feature the inseparability of nitrous oxide gas from dental practice. The advocates of this policy would either grant to all registered dentists, present and future, the privilege of using this anæsthetic, or, permitting all dentists on the Register at the passing of any Act to continue to use any general anæsthetic, would restrict dentists registering after the passage of such an Act to the use of nitrous oxide as the only general anæsthetic to be used by them for their dental operations. The objections to this policy are as follows:—

1. It is in direct opposition to the great principle that the production of adequate general anæsthesia, even for the performance of the most trifling surgical operation, is essentially a medical function requiring for its proper performance a fundamental medical training in order (1) that the fitness of the patient for the anæsthetic may be determined; (2) that the respiratory and other changes brought about by that anæsthetic may be understood and appreciated; and (3) that proper remedial measures may be applied should dangerous symptoms arise.

2. It would unquestionably sanction and promote the admittedly dangerous practice of single-handed anæsthetising and operating. The advocates of this policy contend that single-handed anæsthetising and operating does not and would not take place because, as a rule, dentists are and would be in partnership. But this I venture to question. It would be interesting to ascertain what proportion of dentists are in partnership. Certainly, in the past, single-handed anæsthetising and operating has been exceedingly common, and, as I have elsewhere shown, *practically all the fatalities recorded in dental practice during the past 20 years have taken place during the discharge of this dual function.*

3. It would lead to nitrous oxide being given in unsuitable cases, many of which, under the present unsettled state of the anæsthetics question, are now referred to medical men for their opinion or coöperation.

4. It would tend to increase rather than diminish the already not inconsiderable proportion of cases of imperfect anæsthesia and imperfect tooth extraction, for it is beyond the power even of the most dextrous operator properly to discharge the dual function in a considerable proportion of the cases which present themselves in practice.

5. It is illogical to legislate specially for one general anæsthetic because it is the safest yet discovered, particularly when, as may easily be proved, there are certain cases in which this anæsthetic is specially dangerous.

The third policy is one which would give to all registered dentists, present and future, the right to administer any general anæsthetic for a dental operation. The first three of the five objections which I have just advanced against the last mentioned policy apply, with even greater force, to the policy now under consideration. So far as I can gather the third policy is that which at present commends itself to the British Dental Association. Were such a policy to be adopted in any legislative measure it would undoubtedly introduce into dental practice a danger which at present does not exist; for large numbers of dentists who now administer nitrous oxide themselves for dental operations of very short duration and call in medical assistance whenever ether or some equally profound anæsthesia is desired would unquestionably take upon themselves the additional responsibilities of these longer cases, with the result that accidents, particularly from chloroform, would be more common than at present. I am glad to observe amongst those who support the second of the four policies here outlined a disinclination to do more than sanction the use of nitrous oxide by dentists, although, as I have already indicated, I am still firmly convinced that the first policy is the right one if we make the interests of the public the paramount consideration. The recent resolution of the Royal College of Surgeons, making it obligatory upon all candidates for the L.D.S. diploma to have received instruction in the administration of "such anæsthetics as are in common use in dental surgery," may perhaps indicate that this important College is in favour of the policy under consideration. It by no means follows, however, because a subject forms part of the curriculum that it should of necessity be practised. This is, I think, clear in regard to various other subjects which, though taught, are not practised. If, however, it be the intention of the Royal College of Surgeons of England to recognise registered dentists as competent to administer all general anæsthetics for dental operations and to support any Bill embodying this principle I can only express my profound and respectful regrets.

Lastly, we come to the fourth policy—that of permitting registered dentists to administer any general anæsthetic for any medical or surgical purpose—a policy which if carried into effect would place registered dentists on a level with medical practitioners, allowing them to administer chloroform and allied anæsthetics for the most serious and complex surgical operations. Had I written this letter, Sir, a week ago I should not have done more than simply mention this policy as a possible one. But I regret to say that it has actually acquired form and substance in a Bill just introduced into Parliament by Mr. George Cooper under the title of "The Anæsthetics Bill." Mr. George Cooper's original Bill (the "Medical Acts Amendment Bill") was on the lines of the "General Anæsthetics Bill" to which I have already alluded, and was withdrawn. But his second Bill is one which I sincerely trust will meet with the immediate and strenuous opposition of all those who have at heart the interests of the public and the medical profession. I cannot think that those responsible for its drafting have fully realised its dangerous possibilities. It is, to my mind, hardly conceivable that a Bill embodying such a paradox could have been introduced into Parliament. Our legislature is asked in one breath to grant protection to the public against the indiscriminate use of powerful drugs known as anæsthetics, and in the next to allow *dental practitioners* to administer these agents in *general surgical* practice. But the Bill even goes further, for it would allow registered dentists to supervise the administration of general anæsthetics—to be responsible for the lives of patients whilst others are conducting the administration. Do the promoters of this Bill realise that it would be possible under such an Act for any dentist to supervise the administration of chloroform—let us say—for an abdominal section or for the removal of the upper jaw? What we need is an elevation and not a decline in the level of efficiency of those to whom the responsibilities of human life are entrusted during surgical operations. It is questionable, however, whether any legislation in regard to anæsthetics will take place until reports have been issued and recommendations made by the Home Office Departmental Committee now sitting and by the Anæsthetics Committee of the General Medical Council which has recently been appointed; so that, for the moment, we are not likely to find ourselves in a worse position than we were in when the movement in favour of reforms in regard to anæsthetics was inaugurated. In the meantime, it is important that the medical profession should lay aside, at all events temporarily, its customary apathy, and carefully consider the point at issue, Where should the line be drawn?

I am, Sir, yours faithfully,

FREDERIC HEWITT.

## THE ROUTINE USE, BY THE OPEN METHOD, OF A MIXTURE OF CHLOROFORM AND ETHER.

*To the Editor of* THE LANCET.

SIR,—The engrossing report by Dr. F. W. Hewitt and Dr. J. Blumfeld on the routine use of C.E. mixture recalls to me some experiences which may be cited as an extension of, if not in some respects an improvement upon, their method. For more than ten years the use of a mixture has been a favourite way of mine of maintaining, though not always of inducing, anæsthesia, and it was obvious quite early—using the open (Tyrrell's) mask even—that, as inhalation progressed, the percentage of chloroform remaining on the

flannel rose. It is quite certain, notwithstanding the omission of alcohol from the mixture, and although the mixture is so intimate as rather to resemble a compound, that the rates of evaporation of the two constituents is unequal. It is therefore my practice to add to the anæsthetic already on the mask ether alone, much more frequently than "mixture," making use of the sense of smell to guide me; so long as there is any definite odour of chloroform on the mask no more "mixture" is given, unless the occurrence of too brisk a reflex, with wide pupils, and perhaps swallowing, point to too shallow a narcosis.

For operations about the head (e.g., "mastoid" or "frontal sinus") I have found McCardie's wide-bore mask invaluable; it is easier to thaw the sponge quickly and replace it than to frequently change the wet, cold flannel on the "Tyrrell," which latter, too, is most objectionable when befouled with blood. In the case of children it is an ideal method to give C.E. on the open mask until drowsy, and to continue with ether alone. There are practically no after-effects and vomiting is rare, and, when it occurs, short in duration. "Bad subjects" for anæsthetics may be said scarcely to exist when this method is used as a routine. The principle involved seems to be that, while chloroform is given in decreasing percentage of vapour, an increasing cardiac stimulation is maintained, and the greatest success depends in this, as in all methods of administering anæsthetics, upon *keeping a good air-way*.

I am, Sir, yours faithfully,

DONALD J. MUNRO, B.S., M.B. Lond., &c.,
Anæsthetist to the Metropolitan Ear, &c., Hospital.

Acre-lane, S.W., July 2nd, 1909.

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*To the Editor of* THE LANCET.

SIR,—During the last ten years I have appreciated more and more the advantages of the C.E. mixture under many circumstances in which chloroform or a gas-and-ether or ethyl-chloride-and-ether sequence is more commonly employed. I can especially endorse the remarks of Dr. Hewitt and Dr. Blumfeld in THE LANCET of July 3rd in regard to its use for abdominal operations, particularly in the obese and plethoric. For similar reasons I almost always use C.E. for lumbar operations on the kidney; even when the upper arm is supported the position hampers the expansion of the chest and any excess of mucous secretion adds to the trouble. I have also come to the conclusion that as a rule vigorous adults can with C.E. be anæsthetised more quietly and effectually than by an ether sequence and more safely than by chloroform. This is borne out by many instances in which the same patient has been anæsthetised more than once with different anæsthetics.

A.C.E. and C.E. mixtures seem, however, to be distrusted generally. It may be remembered that a well-known surgeon at a meeting of a medical society once denounced the former as a "damnable mixture in which nobody knows what is being given." This feeling may be partly traced to the fact that anæsthetists have often selected it for desperate cases, and a fatal result has been wrongly attributed to the anæsthetic, but perhaps more so to the directions given in certain text-books, which seem to me calculated to invite disaster. These are to the effect that the sponge in a Rendle's or similar inhaler should be "soaked" at intervals with comparatively large amounts of the mixture ("a measured half-ounce") and that the passage of air may be controlled by "covering some of the holes with the hand" or enveloping the face and mask in a towel. On the contrary, theoretical and practical objections should be obviated by dropping "little and often" on a sponge which should be of coarse texture and not tightly packed. The lining should not reach the top of the mask and the latter should not be closely nor continuously applied to the face, so that air is freely admitted.

I confess I am at a loss to understand why the use of a frame "which can be closely adapted to the face" and is covered by flannel, of which (for a time at any rate) the "whole surface is kept moist," should by the writers of the article be termed an "open" method, whilst that of a Rendle's mask and sponge in which there is, or should be, a free current of air through large holes is called a "semi-open" method which should be discarded. I may say that I have myself used both these methods and also a Junker's bottle.

Practitioners who have made no special study of the subject are already too much inclined to pin their faith to some one anæsthetic and to give it as a matter of routine to all sorts of patients and for all sorts of operations; and I fear that those who may thus adopt the C.E. mixture will find that it is by no means so free from danger as a perusal of the paper may lead them to suppose. Although the results achieved by Dr. Hewitt and Dr. Blumfeld are so satisfactory, and although the method described should ensure a steady administration free from all excess, one must not forget the "personal factor."

I would say emphatically that in whatever way C.E. is given the same strict attention must be paid to the patient's condition as when giving pure chloroform, and that in particular the breathing must be most carefully watched. As I have been told by other anæsthetists, and as I saw in a few of my early cases, the initial effect of an overdose is usually an insidious failure of the respiration, unaccompanied at first by any noticeable alteration in the colour, pulse, or pupils. A careless or inexperienced administrator may therefore suddenly find himself in a position of considerable anxiety. Fortunately, to a watchful observer, the approach of danger is generally evident in good time, and it need hardly be said that the absence of circulatory depression—otherwise so misleading—is then a very great advantage. I have never seen a case in which there was any difficulty in restoration.

I am, Sir, yours faithfully,

J. D. MORTIMER, M.B. Lond., F.R.C.S. Eng.,
Anæsthetist, Royal Waterloo Hospital, St. Peter's Hospital, &c.

Chelsea, S.W., July 3rd, 1909.

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*To the Editor of* THE LANCET.

SIR,—I have read with great interest Dr. F. W. Hewitt's and Dr. J. Blumfeld's "Report on the Use of C.E. Mixture by the Open Method" in THE LANCET of July 3rd, 1909, p. 10. It entirely bears out my own experience of this mixture with the open mask, which I have used in about 200 to 250 cases during the last four years. When first I came into this country district to practise as a general practitioner with a leaning towards the administration of anæsthetics I looked about me for some form of anæsthetic and apparatus which would be applicable to the majority of cases, which would in its carriage be less cumbersome than a gas and ether apparatus, and would, as far as anæsthetics go, be safe.

For some little time before I came down here I had given the C.E. mixture a trial, mixed in the same proportions as A.C.E. without the alcohol, and in the same way as Dr. Hewitt suggests (i.e., chloroform 2 parts by volume, ether 3 parts by volume). I was then accustomed to use a Rendle's inhaler, but now I consider it an airless apparatus. Afterwards, in trying the open method I used Schimmelbusch's hinged framed mask (5 inches by 4 inches) with a handle. I do not think a better mask could be found and now I always use it. It has several advantages over the Skinner mask. It takes less space in one's bag (into which one has to dip for more than anæsthetics). Fresh material can be, and is, always used for each administration. The guttered rim prevents the mixture coming in contact with the patient's face. It has a handle and can be easily boiled. Of course, no tube for oxygen can be fitted, but as yet I have found no need for its use. The material used is ordinary surgeon's lint, which in every way is satisfactory. Lately I have invariably employed Burroughs and Wellcome's brand of chloroform, which contains a small fixed quantity of ethyl-chloride. It is most reliable in every way. Together with this any reliable ether for general anæsthesia is used, for I consider this to be only a diluent, which gives a greater margin of error in the quantity of chloroform vapour administered. I have never found that more than one quarter to one half of the lint need be moistened, even for the most profound anæsthesia.

For all varieties of operations and in any state of health of the patient (where an anæsthetic is permissible) this form of administration cannot be beaten. The patient in nearly all cases "goes under" most easily, with less frequent reflex spasm than with gas and ether, and the various states of the depth of anæsthesia are controlled with greater facility than in any other method. Not having taken any notes as to the amount of mixture required or the time taken in induction I cannot speak definitely on this point, but feel sure that in my

experience they tally more or less with Dr. Hewitt's and Dr. Blumfeld's observations. The after-effects are, considering all things, very slight, vomiting in many cases being entirely absent. In dental cases this form of administration is very good, the anæsthesia lasting well, even for a total extraction. I have never found it necessary to resort to a Junker inhaler.

I feel sure that the general practitioner will feel happier in the anæsthetic department of his work if he uses the C.E. mixture by the open method, and I would have my hard-worked brethren remember that with a little care and thought they can thus administer a general anæsthetic with more comfort to their patients and with less apprehension as to the results. Might I suggest that just before the beginning of the administration, and during the induction, one can gain the confidence of one's patient by the employment of one or two simple little devices. For instance, I always make it a plan in many cases, especially with ladies and children, to sprinkle a few drops of eau de Cologne, or any other pleasant perfume (for preference the favourite scent of the individual, if that be known), on the mask. This, I find, is apt to inspire confidence and thereby to a certain extent alleviate the almost invariable nervousness prevalent in the initial stage of administration. Another thing I have found advisable is to smear a small quantity of some form of face ointment on the chin and cheeks to prevent blistering, if by any chance some of the mixture should come in contact with the face. Always have a huckaback towel ready to hand lest there should be any cessation of breathing not due to mucus at the back of the throat, because sharp friction to the patient's lips will in many cases restore normal respiration.

In conclusion, it is well to remember that if the breathing is regular and unobstructed the heart will look after itself.

I am, Sir, yours faithfully,

DESBOROUGH BRODIE,
Honorary Physician and Surgeon to the Tetbury Cottage Hospital.

Tetbury, Gloucestershire, July 3rd, 1909.

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*To the Editor of* THE LANCET.

SIR,—In the instructive article by Dr. F. W. Hewitt and Dr. Joseph Blumfeld in last week's issue of THE LANCET no remarks are made on Dr. Hewitt's C.E. inhaler, and there is a statement that "the Rendle inhaler and all similar semi-open inhalers for the C.E. mixture should now be discarded." This and the trend of other remarks would seem to convey the meaning that a Skinner's mask is the best of all methods for all subjects of administering the C.E. mixture.

On p. 462 of Dr. Hewitt's classical book on "Anæsthetics and Their Administration" I read: "For ordinary adult subjects this mask (Skinner's), which is an excellent one for the first minute or two of administration, must be replaced ..... by the inhaler shown in the accompanying figure." This quotation shows there existed in the author's mind a knowledge of certain disadvantages of the Skinner's mask in obtaining anæsthesia. But to such there is no reference in the article under consideration. Before, therefore, abandoning the inhaler—the advantages of which are clearly stated in Dr. Hewitt's book—I hope I may ask for guidance.

I am, Sir, yours faithfully,

ALEXANDER BROWN, M.B. Lond.

London, N.W., July 4th, 1909.

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*To the Editor of* THE LANCET.

SIR,—I read with interest the report on the routine use by the open method of chloroform and ether mixture by Dr. Hewitt and Dr. Blumfeld, which appears in your issue of July 3rd. I must confess, however, to a slight feeling of disappointment at the absence of novelty in the procedure recommended. Whilst agreeing with the authors as to the value of the mixture employed, I think it is hardly potent enough for routine use in the case of big burly men, at any rate in the earlier stages of narcosis. There are one or two improvements in the method which I am in the habit of using.

As regards the induction, the average length given in the report is 8½ minutes, and one case of 17 minutes; even in children I notice that induction generally took 5 minutes. This seems to me rather a waste of time, when anæsthesia can be induced with equal safety in an average of two minutes. On Dec. 7th, 1906, I read a paper at the Society of Anæsthetists on what I called the C.E.-ethyl-chloride-chloroform sequence, with an analysis of 200 consecutive cases. This paper appeared later in the *Practitioner*, and the method is fully described in my "Guide to the Administration of Ethyl Chloride," so that I need not here enter into detail. Suffice it to say that the patient is quickly rendered anæsthetic by a sequence of C.E. and ethyl chloride given with some limitation of air by means of a mask and folded towel, the latter being removed as soon as the corneal reflex is lost, and the anæsthesia continued by means of C.E. or chloroform as the case may require. The chief features of the anæsthesia produced by ethyl chloride in this way are temporary loss of corneal reflex, a rather prolonged jaw-spasm, and exaggerated respiration, and by watching these signs one can with the utmost safety push the chloroform or mixture given during the next few minutes to ensure a smooth continuance of the anæsthesia without any tendency to recovery. The struggling stage is shortened and generally abolished entirely in women and children. At one of the hospitals with which I am connected we have a number of post-graduate students, men who have been the rounds of the continental, American, and London hospitals, and I have been assured on many occasions that nowhere else do they see such smooth, safe, and rapid induction. I have now used this method in just on 1000 cases.

Another method which I venture to consider is an improvement on the continuous administration of the C.E. mixture is gradually to add to the mixture in the drop-bottle pure ether till after a time, varying with the type of patient, I am continuing the administration with ether only by the open method, thereby, I feel sure, greatly mitigating shock. I would add that I always prepare my mixture freshly and not more than 5 or 10 drachms at a time.

I am, Sir, yours faithfully,

London, W., July 6th, 1909. G. A. H. BARTON.

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## COLOUR VISION IN THE MERCANTILE MARINE.

*To the Editor of* THE LANCET.

SIR,—There are few ophthalmic surgeons who are better acquainted with colour-blindness than Mr. Devereux Marshall, but whilst agreeing with his letter in THE LANCET of June 19th I should like to point out that the Royal Society is responsible for the present unsatisfactory state of affairs. Yesterday I listened to the debate on this subject in the House of Lords introduced by Lord Muskerry. Lord Hamilton of Dalzell said that the President of the Board of Trade was of opinion that no case had been made out for an inquiry. It was quite evident that Lord Muskerry had proved his point. Lord Hamilton of Dalzell stated in his reply that 64 men who had been rejected by the wool test subsequently appealed; of this number, 27 were found to be normal sighted and to have been rejected wrongly. How many of those who were rejected and did not appeal were normal sighted? Let me quote from the report of the Colour Vision Committee of the Royal Society (p. 17):—

> Cases have been brought before the committee's notice where a candidate who has failed at first has passed a subsequent examination. If the test for colour-blindness were fair to the candidate, and perfectly efficient, such a re-examination would be unnecessary, and passing upon re-examination would be impossible.

I pointed out to the committee in my evidence that normal-sighted persons were rejected by the wool test. In my book on Colour Blindness in the International Scientific Series, published in 1891, before the report of the Colour Vision Committee of the Royal Society, I devoted nearly nine pages to the objections to Holmgren's test and these are generally recognised. There is now scarcely a civilised country with the exception of our own which has not adopted a lantern test for colour-blindness. Even in our own country it is well known that the official test is inefficient. I doubt whether a single ophthalmic surgeon, certainly not one of intelligence, would say that it was a reliable test. A year or so back Mr. Henniker Heaton asked me to obtain a few signatures of ophthalmic surgeons who did not regard the Holmgren test as an efficient one. I sent him a sheet of foolscap paper covered with signatures, including the most eminent men belonging to the Ophthalmological Society. I can say also that a number of physiologists and even

physicists have expressed their agreement with me. The following extract from the report of the Colour Vision Committee of the Ophthalmological Society which was appointed to consider the alleged inefficiency of Holmgren's test should satisfy the reader:—

But we agree with Dr. Edridge-Green that some cases of colour-blindness cannot be detected by Holmgren's test, however skilfully and fully used; and that others that satisfy Holmgren's first test (pale green) easily, and would therefore be passed as normal in most ordinary routine examinations, are exposed by a careful use of Holmgren's second test (Rose test colour). We further agree with Dr. Edridge-Green that some at least of the cases just referred to when tried with the signal lantern make mistakes that at once disqualify them. The discovery of the defect in such cases can be made with certainty and, as a rule, easily, by a modification of the wool-test, such as that of Dr. Edridge-Green, in which, as the result of his investigations, he recommends a series of colours different from Holmgren's.

I will give an extract from an American book on Colour Blindness by Dr. Jennings. He writes: "During the past year I have had four cases who passed the Holmgren test without difficulty, but who made so many mistakes with the reds and greens of the lantern as to show that they were unable to distinguish correctly the true colours of the signal lights seen at the usual distance."

I may justly complain of the contemptible spirit of certain of my opponents. I refer to those men who, whilst anxious to condemn my work, have not had the ability or knowledge to support their statements when called upon to point out some specific fact or deduction which was wrong.

I am, Sir, yours faithfully,

Savage Club, July 1st, 1909. F. W. EDRIDGE-GREEN.

## THE DIAGNOSIS IN PARALYSIS OF THE EXTRINSIC MUSCLES OF THE EYE.

*To the Editor of* THE LANCET.

SIR,—Paralysis of the ocular muscles and the apparent difficulties in connexion with the differential diagnosis is a subject which is constantly coming to the front. This fact would seem to suggest either that no satisfactory scheme has yet been devised, or that if it has it is not as well known as it might be. In THE LANCET of Dec. 9th, 1905, you permitted me to draw attention to a paper which I published in the *Clinical Journal* of March 27th, 1895, under the title "The Position and Rotation of the False Image in Paralytic Diplopia Represented Diagrammatically," and in my letter to you I enumerated the various points which could be solved by the aid of this diagram, and which, therefore, I need not repeat now. Fortunately for me, this letter was seen by Dr. Frederick Taylor, who, after perusal of the paper, honoured me by the suggestion that he should produce it in the forthcoming edition of his "Practice of Medicine," where it will now be found. It is on the strength of this recommendation that I venture to ask your correspondents to peruse the original paper referred to, after which I feel confident that some of the difficulties will disappear.

All the observer need do is to notice whether the false image is displaced upwards or downwards relative to a horizontal line passing through a light which is held in front of the patient on a level with the eyes, and also whether it is displaced to the right or left of a similarly placed vertical line; the diagram will do the rest. Nevertheless, I am prepared to admit that even with the diagram there are occasional cases which defy all attempts at an accurate diagnosis.

I am, Sir, yours faithfully,

R. BRUCE FERGUSON, M.D. Cantab., D.P.H., &c.

New Southgate, N., July 2nd, 1909.

## A SYSTEM OF DIET AND DIETETICS.

*To the Editor of* THE LANCET.

SIR,—I think it unnecessary to reply to Dr. Young's vigorous and hardly justifiable criticism of the short reference to the Salisbury diet in my article in the above work, but for fear that silence might be taken as an admission of inaccuracy I feel bound to do so. Those who read Dr. Young's letter will see that he regards my statement that the diet consists of 2–4 pounds of meat daily as a "vital error" in quantity and yet that he goes on to state that "the largest quantity prescribed by Salisbury *at the commencement of treatment* was eight ounces a meal" (the italics are mine). No doubt, as Dr. Young ably points out, if the quantity of two pounds is divided up into three meals it means nearly 11 ounces at each meal. If it is divided up into two meals it is equally obvious that it would mean 16 ounces a meal. It is possible to give the food in four meals of eight ounces each, or to start with smaller quantities and gradually increase them up to the full amount. In the space of one page allotted to this particular system of diet in the work in question, it would have been impossible to enter into the full details which my critic seems to think necessary, and really this particular diet has received as much notice as it deserves. If Dr. Young can assure me that the quantities mentioned are not given by the exponents of this line of treatment I will admit the justice of his criticism. Apart from that let me point out that in a work written for qualified medical practitioners, not for the public or for students of medicine, the minutiæ of treatment are not required. It does not need a high order of intelligence to understand the principles of the diet as laid down and to make the modifications suitable for the particular patient. Perhaps I ought to have added that the quantities are excessive for children. I really must suggest that Dr. Young should have tried to justify the statement that the article is "erroneous." I am, Sir, yours faithfully,

Upper Brook-street, W., July 7th, 1909. EDMUND CAUTLEY.

## THE RARITY OF CONGENITAL DEFORMITIES IN EGYPT.

*To the Editor of* THE LANCET.

SIR,—In the year 1888 I was asked by the late Professor George Stokes, D.D., librarian of Marsh's Library, Dublin, to call on him. I found him greatly perturbed by the discovery of an Egyptian mummy in the library and he was most grateful to me for taking possession of it, which I gladly did. I brought it to my friend and teacher, the late Professor Bennett, of Dublin University, and we found on examination that a congenital malformation of the humerus existed on the right side. There is a report on this interesting specimen in the Transactions of the Academy of Medicine of Ireland, 1889, and the specimen is preserved in the museum of Trinity College, Dublin. Perhaps this may be of interest in reference to the note on Professor Madden's letter in your issue of to-day on "The Rarity of Congenital Deformities in Egypt." I am, Sir, yours faithfully,

Dublin, July 3rd, 1909. NINIAN M. FALKINER.

## THE SHAKESPEARE MEMORIAL IN SOUTHWARK CATHEDRAL.

*To the Editor of* THE LANCET.

SIR,—As you recorded in THE LANCET, the first Shakespeare Commemoration Service was duly held on April 23rd, 1909, at Southwark Cathedral, the poet's old parish churchs and met with the warmest appreciation. The collection was given to the Shakespeare Memorial Fund, but the expense, were heavy, and a large proportion of the £650 needed remains to be raised. The design for the memorial shows the recumbent life-sized figure of Shakespeare, the deeply recessed background showing Old Southwark. The committee are anxious to have the work put in hand at once so that it may be unveiled next April, and they appeal very earnestly for funds not only to lovers of this beautiful mediæval church, but to all who admit their indebtedness to the bearer of the greatest name in literature. Donations will be gratefully acknowledged by Canon Thompson, D.D., at the Cathedral; by Mrs. Kendal, 12, Portland-place, W.; or by myself. Cheques should be made payable to the Shakespeare Southwark Memorial Fund, and crossed London and Westminster Bank.

I am, Sir, yours faithfully,

RALPH LEFTWICH, M.D. Aberd., Hon. Sec.

125, Kennington-park-road, London, S.E., July 3rd, 1909.

## THE LATE PROFESSOR D. J. CUNNINGHAM.

*To the Editor of* THE LANCET.

SIR,—It was with feelings of profound regret that I heard of Professor Cunningham's death. My thoughts wander back more than 20 years, and I fancy I still hear his well-known voice as he emphasised a point by directing attention to "the structure which I grasp in the forceps." Having been appointed in 1883 to the chair of anatomy at Trinity College, Dublin, he urged upon the board the necessity of increasing the accommodation in the medical school, and an extensive scheme of rebuilding, enlarging, and reorganisation was soon

accomplished. His constant aim was to obtain the very best of everything for the students, for "good enough" never satisfied him. Cunningham never forgot that his chief business was to teach the students in the best manner, and that scientific research was useful and interesting, but only secondary for a professor. He looked upon his position as a sacred trust; he felt that the students wanted to be taught and that upon his exertions during a short period their whole after-life depended. His ideal was to set a high standard before the students and that they would work up to it. Practical experience has proved that he was right, and like other born leaders of men he found "follow me," "come on," more potent than "go" or "do." The discipline in his class and in the room was perfect, yet free from suspicion of coercion. We always spoke of Cunningham as "the professor," and very many found in him a friend no less than a teacher.

In some hints for my own future guidance he revealed his method, and amongst other points said, "You must work hard and keep constantly reading if you want to command the attention of your students. Although I have now been teaching anatomy many years, I never go into my theatre without carefully preparing my lecture. I go over every word of what I am going to say and I revise any point which I think can be improved."

To command success he left no stone unturned, and by his example of strenuous work, coupled with an exceptionally high degree of manual dexterity, he stimulated the exertions of every student under his charge. We all considered it a real honour to have a dissection commended by him, and when, on rare occasions, he gave full marks it was the talk of the class, and the happy student was greatly envied, perhaps more than if he had been specially successful at a football match. It was a pleasure to see his keen bright eyes light up as he carefully inspected a good dissection. On the other hand, he could, and did, condemn bad work kindly but firmly. His method of teaching was thoroughly practical; his chief object was to get the students to learn their anatomy by careful dissection, to become so familiar with the essential features that they would never forget the situation and relations of important structures, even though they might not retain every name. His "Manual of Practical Anatomy" was a revelation of what could be done to make anatomy part of the student's life. When I began to read his description of the abdomen I found it so easy and simple that I thought it would be useless for my examinations, but I soon altered my opinion and I found that it was the most instructive book I had ever used. It brought me triumphantly through my examinations and never failed me while teaching others. I have always admired the great ability which enabled Cunningham to convey so much information in such an interesting manner.

As a lecturer he had great facility of expression, he always held the attention of the class, and proved that students can learn from lectures if the lecturer is fit for his post. An aptitude for diagrammatic drawing added considerably to his powers as a teacher. He was an able exponent of the art of dissecting under spirit and prepared many excellent preparations for the dissecting-room museum. He also fitted up a large and well-equipped bone room which indicated the high value he placed upon a good knowledge of the bones as the foundation of anatomy. The series of casts which he prepared in connexion with his work on the topography of the brain enhanced his already great reputation. Those who have not had the chance of closely watching him at work can scarcely form an adequate estimate of the amount of painstaking conscientious labour which he devoted to every detail in the preparation of this series. He did everything himself, including the moulding in gelatin and the final casting in plaster with the necessary retouching and colouring. The careful finishing of the specimen casts entailed much tedious work and could only be done by a master hand familiar with both anatomy and modelling.

He introduced into Dublin the employment of frozen sections, and his preparations in this branch elicited the warmest praise. In his scientific work he was generous to a degree in praising the powers of others. When I was qualified I once more found the professor a valuable friend. He entered into a complete discussion of my plans, and clearly laid before me the *pros* and *cons.* of the various courses which were open. His advice was all the more acceptable as I felt that he realised the importance of what he said. Latterly our paths have lain in widely different fields, but I still find that my life, my thoughts, my work are influenced for good by the precepts and example of one of the best teachers I ever met—one who, alas, is now no more. It is almost needless to add that he won the esteem and affection of all his students and that his early death will be keenly felt by them.

I am, Sir, yours faithfully,

July 9th, 1909. AN OLD STUDENT.

## MANCHESTER ROYAL INFIRMARY.

(FROM OUR MANCHESTER CORRESPONDENT.)

### OPENING BY THE KING AND QUEEN.

THE New Royal Infirmary, Manchester, was formally opened on July 6th by His Majesty the King and Queen Alexandra, who were accompanied by Princess Victoria. The Royal party arrived in Manchester at 11.30 A.M. and drove along Oxford-street to the new infirmary. In the hospital grounds in front of the accident-room the 2nd Western General Hospital Staff of the Territorial Army (which has been joined by many of the honorary staff, students, and nurses of the infirmary) was paraded under the command of Colonel William Coates, C.B. On the left were the men and officers of the hospital "nucleus" in military uniform (service dress No. 3); the "*à la suite*" medical officers in academic robes were in the centre, and on the right were the nurse and sisters who have joined the nursing staff of this hospital of the Territorial Army. As the King drove past the "Royal salute" was given. Their Majesties, after their reception at the entrance of the out-patient hall by Lord Derby, President of the Infirmary, and by Mr. William Cobbett, chairman of the board of management, were then conducted to a dais, erected at the end of the hall, and the following address from the board of management was read by Mr. Cobbett.

"*To Their Most Excellent Majesties King Edward VII. and Queen Alexandra.*

May it please your Majesties,

We, the board of management of the Manchester Royal Infirmary, and the members of the honorary medical staff, on behalf of the trustees and subscribers, humbly approach your Gracious Majesties gratefully to acknowledge the honour your Majesties have conferred upon us by your presence to-day, and to express our thanks for your Royal recognition of our effort to provide an infirmary adequate for the needs of the city and district for many years to come.

The Royal Infirmary, of which your Majesty is the patron, was founded in 1752, and after more than a century and a half of beneficent work, the growing needs of an ever-increasing population made it necessary to transfer its operations to this more extensive and salubrious site.

The new infirmary has been erected to accommodate 600 patients, but to meet existing requirements equipment has been provided for 483. The estimated cost, inclusive of a portion of the site, is £500,000, £400,000 of which have been provided by the sale of the old infirmary site to the corporation of the city, the balance of £100,000 being raised by voluntary contributions. We have every reason to believe that the estimated cost will not be exceeded, and it is a great satisfaction to us to be able to announce that our resources are undiminished and that our sole remaining anxiety is the raising annually of a sufficient income to meet the largely increased expenditure.

We trust that your Majesties will be graciously pleased to give permission for one of the wards to be called 'King Edward the Seventh Ward,' and another 'Queen Alexandra Ward.'

We desire that your Majesties will be graciously pleased to accept our loyal and earnest wishes for your long life and happiness, and we humbly pray that your Majesty will declare the Manchester Royal Infirmary to be open.

We have the honour to be

Your Majesties' loyal, dutiful, and obedient servants,

(Signed) WM. COBBETT,
Chairman of the Board of Management;
ARCHIBALD DONALD,
Chairman of the Medical Board."

The KING then read the following reply:—

"The Queen and I have much pleasure in receiving the address of the board of management and the honorary medical staff of the Manchester Royal Infirmary.

I have long been aware of the excellent work which was carried out in your former building in the heart of the city, and I was much gratified when, some eight years ago, I was able to continue the patronage and use of the title Royal which had been granted to you by my beloved mother, Queen Victoria, and by her predecessor on the throne.

It is with sincere pleasure, and with hearty congratulations to you and to the city of Manchester, that I now declare the new Manchester Royal Infirmary to be opened, and, in compliance with your loyal prayer, I give permission for one of the wards to be called 'King Edward the Seventh Ward,' and another the 'Queen Alexandra Ward.'

I trust that the advantages of the new site, and of the handsome and well-equipped buildings which have been erected on it, will at once make themselves manifest. I am confident that under the more favourable conditions not only will your patients have the benefit of speedier and more complete restoration to health, but that the arduous duties of your physicians, surgeons, and nurses, and the whole complicated administration of this great institution, will be facilitated by these more convenient and seemly surroundings.

The esteem and gratitude of the community are due to all of you who take part in the beneficent work which goes on inside these walls unceasingly night and day. You who, by personal efforts and money contributions, have helped to bring this great hospital into being, and to all of you who in the future will, I doubt not, assist in the making of such further provision as the needs of your suffering fellow-men may call for—I pray that the blessing of God may be on all your efforts."

The King then turned to his equerry, who handed his sword to His Majesty. Mr. Cobbett was commanded to kneel and was knighted by the King. Prolonged and enthusiastic cheering followed, as Mr. Cobbett's work in connexion with the erection of the new infirmary is so very highly esteemed in Manchester. Sir William Cobbett then presented to His Majesty Mr. J. D. Milne, chairman of the infirmary committee; Mr. F. W. Peel, honorary treasurer and chairman of the finance committee; Mr. C. Hopkinson, chairman of the building committee; Dr. Judson Bury, senior honorary physician; Mr. F. A. Southam, senior honorary surgeon; Dr. A. Donald, chairman of the medical board; and Mr. Edwin T. Hall and Mr. John Brooke, the architects.

After the presentations their Majesties and Princess Victoria and suite left the out-patient hall, escorted by Lord Derby and Sir William Cobbett, and proceeded to the wards. In the corridor they were received by the general superintendent of the infirmary, Mr. W. G. Carnt, and the lady superintendent of nurses, Miss M. E. Sparshott, and a reception committee. Dr. Bury, Dr. A. T. Wilkinson, Dr. E. S. Reynolds (honorary physicians), and Mr. Southam (honorary surgeon) also accompanied the Royal party to Queen Alexandra Ward. The Queen here unveiled the lettered panel on the door bearing her name. The surgeons in charge of the cases in this ward, Mr. G. A. Wright and Mr. A. H. Burgess, and the resident surgical staff were present in the ward.

The Royal party then proceeded to the medical side of the hospital, and the King unveiled the lettered panel on the door, bearing the name "King Edward VII. Ward." The physicians in charge of the cases, Dr. R. T. Williamson (in the absence of Dr. Graham Steell) and Dr. G. R. Murray, and the resident medical staff were in attendance. In both wards the Queen passed from bed to bed and presented a flower to each patient in the sympathetic and graceful manner which marked Their Majesties' demeanour during their whole visit. At 1 o'clock the Royal party left the infirmary for the review of the Territorial Army in Worsley Park, bringing to a close a ceremony long to be remembered in the annals of the institution.

M. Capitan has been elected a Free Associate of the Academy of Medicine of Paris.

## LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

*Annual Report of the Port Sanitary Authority.*

Dr. E. W. Hope, as medical officer of health of the port sanitary authority of Liverpool, has just issued his annual report, which, as usual, contains illuminating information as to the measures adopted to keep the port free from imported epidemic diseases, and is illustrated by a series of valuable tabulated statements. The jurisdiction of the port sanitary authority is co-extensive with that of the port. This comprises the waters, docks, basins, quays, and wharves contained within the area between the Red Rocks at New Brighton, Hoylake, and Ince Ferry on the Cheshire side, the boundary then extending in a straight line across the Mersey to Dungeon Ness, and thence along the Lancashire shore to the inner mark at Formby Point. And the powers extend over all ships coming within the area of the port. The responsibility of the authority may be gauged from the facts that the tonnage of vessels entering and leaving the river during the year ended July 1st, 1908, was 34,223,628, whilst the value of merchandise (which reached the high figure of £303,307,103 for the year 1907) and the number of persons passing through the port of Liverpool constitute an indication of the importance of the trade of the port and of the interests which the authority has the duty of safeguarding. The passengers who left Liverpool during the year 1908 for European ports numbered 5710, and for ports out of Europe—British, 130,323; foreign, 81,832; total, 217,865. To Liverpool there came: from European ports, 4763; from ports out of Europe—British, 74,490; foreign, 97,966; total, 177,219. Vessels on which infectious disease has broken out and ships coming from ports where plague, cholera, or other infectious disease exist, are reported to the medical officer, who has the sick persons removed to the port sanitary authority's hospital, the ships disinfected, and, if necessary, quarantined. In the case of cholera quarantine was declared against the Baltic ports in September, 1908, and medical inspection carried out in the case of all vessels arriving from those ports. Cholera appears to be well established, not only in St. Petersburg, but in the vicinity, and, as the water-supply is derived from the River Neva, and the efficiency of the filter beds is doubtful, a further epidemic like that of 1907 is to be anticipated, together with an extension along the Baltic littoral. Every precaution against the carriage of infection from those ports is therefore necessary, and quarantine is still in force against St. Petersburg and Cronstadt. Four cases of cholera occurred during the year on board Liverpool vessels and were landed abroad. 37 cases of beri-beri occurred on board 13 Liverpool bound vessels, an increase on the previous year. 19 of these cases occurred on board two vessels. The year 1908 witnessed only a slight extension of the present epidemic of plague. There is a considerable reduction in the numbers affected throughout India, though the area affected is now appreciably altered. Mandalay was rather severely affected towards the end of the year. On the Chinese coast plague was still prevalent. Plague is still sporadic throughout Lower Egypt, and the occurrence of one or two cases at Adalia and Beirut shows the difficulty of stamping out the disease once it has obtained a footing. Plague was reported from several places on the Gold Coast. The occurrence of three cases of plague at Liverpool is the principal event to be recorded in this connexion. After an absence of seven years it appeared in Liverpool in October last, but confined itself to a barge in the docks. There was no further extension of the disease. Five cases of a suspected nature were landed from vessels during the year, but the presence of plague was not confirmed bacteriologically. The close association of rats with the dissemination of plague has caused endeavours to be made in all centres where the disease is likely to establish itself to exterminate those pests. Attention has accordingly been given to the subject in the port and city of Liverpool on the lines of former reports. 1926 rats have been trapped and examined at the University pathological laboratories, in addition to 14 rats which were found dead, during the year 1908. None were found to be plague-infected. During the year the demand for consular health certificates indicating

the freedom of the city from quarantinable infectious sickness showed a slight decrease, the number of certificates of this character issued to merchants and shipowners for various consular purposes being 351.

*International Ophthalmological Congress.*

The Eleventh International Ophthalmological Congress held at Naples from April 2nd to 7th has conferred, through its special commission appointed for adjudging the scientific exhibits, the silver medal on Dr. Karl A. Grossmann of Liverpool for his astigmometer and his improved artificial eyes demonstrated by him at the Congress.

*Death of Mr. Henry Gorst of Huyton.*

Mr. Henry Gorst died at Tarporley in Cheshire on June 19th, after a lingering illness. He received his medical education at University College, Liverpool, St. Thomas's Hospital, London, and Paris. He obtained the Membership of the Royal College of Surgeons of England in 1876, and became a Licentiate of the Royal College of Physicians of London in 1877. He was formerly house surgeon at the Liverpool Royal Infirmary and visiting surgeon at the Liverpool North Dispensary. He joined his father, the late Mr. Richard Gorst, in practice at Huyton in 1880. He was a very hard worker and was highly respected in Huyton and neighbourhood. The interment took place at Huyton on June 23rd, in the presence of a large concourse of mourners.

*New Hospital for Ellesmere Port.*

A public meeting was held at Ellesmere Port to consider the advisability, or otherwise, of establishing a cottage hospital for the district. It was urged that the rapid growth of the town necessitated the construction of such an institution. Up to the present time cases of injury or illness had been sent to the Chester Infirmary, to which £170 had been contributed last year. There were 30 cases treated at the Chester Infirmary, and last year a third of the cases from Ellesmere Port were sent to various parts of the country. If the whole of the men employed at the works in the district would contribute 1*d.* a week something like £600 a year would be assured, but a sum of close on £1000 would be required. A committee was formed to test the feeling of the district, and to obtain statistics of similar institutions and to report thereon.

July 6th.

## NEWCASTLE-UPON-TYNE.

(FROM OUR OWN CORRESPONDENT.)

*Milk and Tuberculosis.*

SOME weeks ago there was noted in these columns (p. 1723) a reply given by the sanitary committee of the Newcastle corporation to a deputation from the Northumberland and Durham Dairy and Tenant Farmers' Association. The association had expressed doubts as to the infallibility of the tuberculin test in animals, and had further thrown out the suggestion that it would be desirable for the association to work with the sanitary committee in considering cases for prosecution. The association has now formally received the reply given to its deputation and has commented on it in some considerable detail in a circular addressed to the members of the sanitary committee. In the circular it is alleged: 1. That the committee has not taken the best advice possible as to the efficiency of the tuberculin test, and that there are numerous examples of its failure. Of the latter, two are brought forward. The first is that of a pedigree heifer which reacted, but which on being then slaughtered failed to show any sign of disease; and the second is that of a cow which had also reacted and was afterwards rigidly examined by a veterinary surgeon and a meat inspector who certified it as healthy and allowed it to be sold for human consumption. 2. That even if an animal reacts the milk is not necessarily involved, for if the udder be undiseased it is improbable that the milk will be tuberculous, this statement being given on the authority of the highest veterinary experts. The association further believes that it is more than possible that milk during its carriage through streets and slums may become infected after leaving the farm. While also agreeing that animals with diseased udders should be removed it considers it unfair that a farmer should be compelled to test his cows until compensation is provided for those that react.

*Newcastle Guardians and Vaccination Fees.*

As the result of information received by the Local Government Board (and presumably supplied by the Ratepayers' Association) the Local Government Board has written to the board of guardians asking for its observations on letters and other documents which have been sent *re* the question of vaccination fees. The board has decided to send up its full minutes for inspection.

*Inter-University Students' Congress at Durham.*

Delegates to the number of about 50 from the students' representative councils of various British Universities met at Durham last week for their congress. By the invitation of the President (Sir George Hare Philipson, M.D.) and Council of the Durham University College of Medicine there was held in the College of Medicine at Newcastle a reception of the delegates on July 1st. In addition to the delegates there were present representatives of the staffs of the Royal Victoria Infirmary and the Armstrong Colleges. The College was thrown open and in addition to a musical entertainment various lantern and microscopic demonstrations were given in the laboratories. On July 2nd in connexion with the Congress the Inter-varsity sports were held on the ground of the Medical College in Newcastle, some 50 representatives coming to compete in the various events. There were representatives from St. Andrews, Belfast, Birmingham, Edinburgh, Leeds, Liverpool, Manchester, and Dublin. Amongst these were Ian A. Dickson (Edinburgh), the holder of the Scottish championships for 220 and 440 yards; G. Stephens (St. Andrews), the Scottish long jump champion; and G. N. Morphy, the Irish quarter-mile champion. In the aggregate, Edinburgh held the first place, Dublin being second, the local universities not appearing to great advantage. Following the sports, there was held in the Armstrong College, Newcastle-on-Tyne, a farewell supper, at which both the business and athletic representatives were entertained, Sir Isambard Owen (Principal of the College) being in the chair.

July 5th.

## WALES.

(FROM OUR OWN CORRESPONDENT.)

*The Cardiff Infirmary.*

THE annual report of the Cardiff Infirmary is always an interesting document, if only for the fact that it contains certain statistical records which refer to periods extending over a long series of years. That which has just been issued for the year 1908 is the seventy-second of the series, and the growth of the institution may be gathered from the statement that in the year 1837 there were treated in the wards only 42 patients, whereas in 1908 the number had increased to 2245. The total expenditure in the former year was £759, and in the latter £15,849. The year covered by the last report was an eventful one in the history of the institution. A new and very well equipped out-patient department was opened by Professor Osler in April, and not only was the cost of this new building met but an additional £30,000 were subscribed for additional wards. When the latter are completed it is estimated that it will be necessary to secure further income amounting to some £7000 annually. With this end in view several schemes are already in active operation. One of these includes the engagement of a paid collector to gather in the contributions of workpeople. In this way £4896 were collected in 1908, a very substantial increase on the £728 which were subscribed by the Infirmary Saturday collections in 1898. Another scheme which was proposed by Lady Aberdare has for its object the collection of 1,000,000 shillings. Collecting books, each containing 21 vouchers of one shilling, are distributed to collectors who receive a medal upon disposing of all the vouchers. The collector who secures 70 additional collectors is entitled to name a bed for one year and for every subsequent year in which the 70 collectors dispose of their 21 vouchers. The board of management has very wisely decided to adopt the method of account-keeping recommended by King Edward's Hospital Fund. It will, therefore, be possible in future to compare the management expenses with those of most of the London and provincial hospitals. The average weekly cost per head for provisions during 1908

was 5*s.* 10*d.*, a sum which reflects credit upon the household officials.

*Cardiff Corporation Bill.*

The Omnibus Bill promoted by the Cardiff corporation, which has been reported by a committee of the House of Commons for third reading, was practically unopposed. The Manchester tuberculosis clauses, which provide for the inspection of dairy cattle outside the borough, are included in the Bill, and there are also clauses relating to the manufacture and sale of ice-creams. With the rapid increase of the town which has been going on of late years there is of necessity a decreasing amount of milk produced within the borough, and an increasing quantity is brought from outside. Dr. E. Walford was one of the first medical officers of health to recognise the extreme importance of preventing the use of milk from tuberculous cattle. As long ago as 1899 he drew up a model form of contract for the use of public institutions and their dairy contractors. One clause of the contract provided that the contractor should allow the corporation veterinary surgeon, in company with the medical officer of health, to apply the tuberculin test to any or all of the milch cows on his premises, and, in the event of a reaction demonstrating the presence of tuberculosis, the milk from the particular cow was no longer to be supplied.

*Asylum for Swansea.*

A step further has been taken towards the provision of an asylum for Swansea lunatics. A committee of the corporation has been authorised to negotiate with the owners of land, outside the borough boundaries, on which it is proposed to erect suitable buildings. At present Swansea patients are being boarded at the Worcester City Asylum, the Cheddleton Asylum of the Staffordshire county council, the Glamorgan County Asylum at Bridgend, and at the Brecon and Radnor Asylum at Talgarth. Attempts have been made to come to some permanent arrangement for the joint use of the last-named institution, but it was found that the cost of erecting additional buildings, together with the payment of a share of the cost of some of those already in use, would amount to almost as much as the cost of a separate institution nearer to Swansea. It has been suggested that it might be an advantage to Swansea if the cost of the proposed institution could be shared with Merthyr, and the council of the latter borough are now discussing the practicability of the suggestion.

July 6th.

## SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

*The Treatment of Incipient Insanity.*

THE annual meeting of the governors of Dundee Lunatic Asylum, who have under their control Gowrie House at West Green, was held recently. A system is in force whereby cases of incipient insanity are treated at Dundee Royal Infirmary. Reports regarding both portions of the work were submitted. The report of Dr. W. Tuach-Mackenzie set forth that during the year 76 patients had been under treatment at Gowrie House, this being 19 fewer than last year, but about the average for the last five years. Eight were discharged recovered, two were sent to other asylums, and two were removed at the request of relatives. During the year five had died from natural causes, and there were at the close of the year 59 under treatment. Dr. Tuach-Mackenzie pointed out that in six cases admitted the cause of the mental breakdown was preventable, and that had the ordinary laws of hygiene been obeyed they would not have required the help of an asylum in regaining their shattered health, and would have avoided being burdened through life with the stigma with which residence in an asylum unfortunately still handicapped a person. The directors were to be congratulated on the completion of their scheme for the treatment of cases of acute nervous and mental disorder. The success of their scheme would in a great measure depend on the correct appreciation and early diagnosis of the proper cases for this kind of treatment. Dr. J. Mackie Whyte reported on the treatment of incipient cases in the infirmary, and stated that four persons had been treated since the beginning of May, two had completely recovered, one had improved in some respects and was allowed to go home, and one was still under treatment. Mr. Macintosh said that he would be the last to object to anything being done to prevent the stigma of asylum treatment being cast on any one, but there appeared to him to be a duplication of work here. He understood, when the directors undertook this work, that it was for a class not provided for otherwise, a class similar to those helped at Gowrie House. The parish council had provided accommodation as good as could be got in the observation wards of the east poorhouse for the treatment of the very class of people that had been in the infirmary. That accommodation had never been taxed to anything like its full extent. There were 19 beds and he did not think there had ever been more than six or eight of them occupied at once. The subject then dropped and the reports were approved. Mr. J. W. Fleming, on the board of patients, moved that in accordance with a suggestion made by the committee it be an instruction to it that the lowest rate of board in Gowrie House be £35 instead of £25. The committee, he said, regretted making such a suggestion, but it was necessary in view of the state of the finances and the work which was being undertaken under the new charter in dealing with incipient cases. The motion was ultimately withdrawn, but notice was given of it for the next quarterly court.

*University of St. Andrews: Appointment to the Chair of Chemistry.*

Mr. James Colquhoun Irvine, Ph.D. (Leipsic), D.Sc. (St. Andrews), has been appointed to the chair of chemistry in the United College, rendered vacant by the resignation of Professor Purdie. Mr. Irvine, who is a Fellow of the Chemical Society of London, has been lecturer in organic chemistry at St. Andrews University.

*Death of Dr. G. A. Maconachie.*

The death occurred at his residence in Queen's-road, Aberdeen, on June 26th, of Dr. George Archibald Maconachie, late lecturer on tropical medicine at the University of Aberdeen. Dr. Maconachie was born at Towie in 1843. He graduated M.B., Ch.B., of Aberdeen in 1866 and received the degree of M.D. in 1872. In April, 1867, he entered the Indian Medical Service. He took part in the Abyssinian War and was present at the fall of Magdala. Subsequently Dr. Maconachie was appointed a professor in the Government Medical College, Bombay, and soon afterwards became principal. For upwards of 25 years he was a member of the Bombay Educational Department. He was also a member of the Bombay Municipal Corporation and a director of the Bombay Mechanics' Institution. In June, 1891, he retired from the service with the rank of brigade-surgeon-lieutenant-colonel, and took up his residence in Aberdeen. There he continued his interest in educational matters and served for a number of years on the Aberdeen School Board. In 1899 he accepted and held for some years the post of lecturer on tropical medicine in the University of Aberdeen. Dr. Maconachie is survived by his widow and family, his only son being in the Indian Medical Service.

July 6th.

## IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

*Compulsory Notification of Tuberculosis.*

THERE is no ignoring the gravity of the present position for the Irish people and for the Irish medical practitioners that is created by the Order making notification of tuberculosis compulsory in Dublin. When the Irish Tuberculosis Bill was passing through Parliament a strong agitation against the compulsory notification clause culminated in the action of Mr. Nannetti, M.P., who was believed to have succeeded in having notification made voluntary, and dependent on the decision of the local sanitary authority. The Dublin corporation had formally objected to compulsory notification when the Bill was before Parliament, and it was supposed that the clause had been effectively dealt with in that sense. Since then, however, the principle of compulsory notification has been adopted by a majority of the corporation, and it is now compulsory on every medical practitioner in Dublin to notify, under penalty of a fine of 40*s.* and for a fee of 2*s.* 6*d.*, the case of every individual whose sputum he believes to be infectious.

What is to happen if the notified person denies his infectiousness cannot yet be guessed, but he would be a rash practitioner who would assert that he might not fall into error sometimes. Those who know what political and agrarian rivalry, and class and creed antagonisms and jealousies are throughout the depths of this country, and who also appreciate the mingled instincts of fear and loathing of the supersensitive Hibernian Celt in presence of the owner of a foul disease, cannot help expressing anxiety at the possible issue of the compulsory notification of tuberculosis.

*Castlerea Union: Alteration of Boundaries of Dispensary Districts; Scale of Fees.*

At a recent meeting of the Castlerea board of guardians a letter was read from the Registrar-General's office enclosing copies of an order altering the boundaries of the Ballaghaderreen, Castleplunket, and Castlerea dispensary districts; also constituting Loughglynn a new district, and ordering that copies of the order should be posted up throughout the district. An order was made that this should be complied with. A letter from the Local Government Board was also considered. This ruled that the guardians' proposal to make the acceptance of a scale of fees for the Ballaghaderreen district a condition of the medical officer's appointment was illegal. The medical officer to be appointed to the district and other dispensary officers of the union should be asked to furnish a scale of charges for attendance upon persons whose circumstances would not admit of their paying the usual fees. Such a scale, if attempted, would only remain operative until withdrawn by the medical officers. The medical officer of the workhouse, Mr. P. C. Walsh, had forwarded a request for favourable consideration of his "claim for an increase of salary after 30 years' service in the union." One of the guardians handed in a notice of motion to the effect that "on this day fortnight Dr. Walsh's letter asking for an increase of salary after 30 years' service be considered."

*The Queen's University of Belfast.*

The Belfast University Commissioners have just issued the names of the new professors and lecturers appointed by them. On the medical side, Mr. D. T. Gwynne-Youghan, M.A. Cantab., has been appointed professor of botany; Dr. J. A. Milroy, who for the past six years has acted as demonstrator of physiology in Queen's College, Belfast, has been appointed lecturer on bio-chemistry; Dr. W. J. Wilson, the Riddell demonstrator of pathology and bacteriology, has been selected as lecturer on hygiene; Mr. R. Jack, D.Sc. Glasg., has been appointed lecturer on physics; and Mr. A. W. Stewart, D.Sc. Glasg., lecturer on organic chemistry.

*Ballykelly Dispensary District, Limavady.*

At the weekly meeting of the Limavady board of guardians, held on June 28th, it was proposed to give Dr. J. R. Ross, who has recently resigned the office of dispensary medical officer of Ballykelly, a superannuation of £87 5*s.* 8*d.* It is true that this sum was the full pension, but why should it not have been awarded, especially as it was pointed out by one of the guardians that long and faithful services to the poor entitled the retiring medical officer to generous treatment. However, an amendment cutting the pension down to £50 per annum was carried. Dr. A. G. Martin of Dungiven has been appointed in Dr. Ross's place. It is to be hoped that when after a long life's service he retires the guardians will give him more than £1 per week as a pension.

*Double Tenancies in Belfast.*

At the monthly meeting of the city corporation on July 1st the question of double tenancies was discussed. It will be recollected that the public health committee of Belfast had passed a resolution that no further notices should be issued to owners of double tenancies, except in such cases as in the opinion of counsel legal prosecution might be undertaken. An amendment was moved that all reference to the matter be deleted, the object being to throw out this resolution, but the motion was lost by 11 to 13. Out of a corporation of 60 members only 24 voted on this most important question of public health, and of these only 11 voted against what one of the leading morning papers of July 2nd, commenting on the matter, characterises as a "gross outrage on health and morals." Several of the Belfast newspapers—for example, the *Northern Whig*, the *Belfast News Letter*, the *Belfast Evening Telegraph*—are very outspoken in their adverse comments upon the policy of the corporation, which, in the light of this vote, is one of inaction in circumstances of serious import to the public health. The attitude of the public health committee of the city corporation is supposed to be justified by the fact that the corporation has a new housing scheme which will deal adequately with gross abuses the existence of which can be denied by no one, but the position is too urgent for any vaguely defined scheme in the future to be considered a satisfactory rejoinder to the evils of the present. The *Belfast Evening Telegraph* of July 2nd, a paper which circulates largely among the working classes, concludes a very outspoken article with the following sentence:—

> To assume any passive attitude towards a state of affairs that, translated into plain, if unsavoury, language, simply means the discharge of the offices of nature in one living room, with subsequent conveyance through the living room of another family, is a perfectly horrible and intolerable position, and no pretence of humanitarianism can defend it.

That is the position, and it behoves the citizens of Belfast, supported by all enlightened sanitarian opinion, to see the position quickly remedied.

July 6th.

## PARIS.

(FROM OUR OWN CORRESPONDENT.)

*Phototherapy in Tuberculosis of the Larynx.*

AT a meeting of the Academy of Medicine held on June 15th M. Nepveu described the results which he has obtained with phototherapy in the treatment of tuberculosis of the larynx—results which agreed in a striking manner with those of his predecessors but were produced much more rapidly. He found that dysphagia, although often refractory to ordinary methods of treatment, yielded to phototherapy with remarkable facility. Lesions of the epiglottis and the arytenoid cartilages afforded the best results. Lesions of the vocal cords disappeared more slowly, perhaps in consequence of the difficulties of manipulation, but in several cases the voice was improved and there were two instances of complete recovery. Œdema seemed to be the only contra-indication.

*Radical Treatment of Tuberculosis of the Male Genitalia.*

At a meeting of the Surgical Society held on June 9th M. Pauchet said that in five cases under his care recovery had followed unilateral removal of tuberculous spermatic organs—namely, the prostate, the vesicula seminalis, the vas deferens, the epididymis, and sometimes the testicle. His earliest operation was performed eight years ago. One of these patients was at first treated by castration and four years afterwards by extirpation of the vesiculæ seminales and the prostate. Three of the five patients who were operated on had urinary fistulæ in the perineum, but these became closed after a period varying from six weeks to eight months. In the first or "inguinal" stage of the operation M. Pauchet detached the vas deferens subperitoneally deep in the pelvis and after applying a double ligature he divided it with a thermo-cautery. If the epididymis was adherent to the skin or connected with a fistula, he next proceeded to the "scrotal" stage in which he either excised the epididymis or performed complete castration. In the third or "perineal" stage he made an incision as if for perineal prostatectomy, and after having exposed the prostate and the base of the bladder he excised a corner of the prostate at the spot where the ejaculatory ducts entered the urethra. Finally, he removed by the inguinal route the vesicula seminalis and the remaining portion of the vas deferens. He drained the perineal wound without suturing it. About a month was required for healing.

*The Ambulatory Treatment of Fractures of the Femur.*

At a meeting of the Society of Paris Surgeons held on May 28th there was a discussion on the treatment of fractures of the femur without confinement to bed. M. Dupuy de Frenelle, who had examined many cases radiographically, said that even when continuous extension had failed to correct the displacement of the fragments an almost perfect result could be obtained by reduction and the simultaneous application of splints or other apparatus (*appareils de marche*) which did not prevent walking. With the use of such supports walking did not involve the least displacement of the fragments even in the most unfavourable cases, such as

oblique fractures and fractures with three fragments. He had not observed excoriation either in very young children or in aged persons. By applying splints in this manner it was possible to arrest the progress of pulmonary congestion as well as to avoid œdema and disorders of the circulation. Recovery was rapid and complete, both anatomically and functionally. At the beginning of the treatment M. Dupuy de Frenelle applied the apparatus of Dollinger and Pierre Delbet, strengthened by aluminium splints, the process of reduction being watched radioscopically. From the very first he employed electrical stimulation of the muscles through apertures made in the plaster, and modified Dollinger's apparatus in accordance with the extension of the consolidation of the callus, replacing it by a Sorel's stirrup in the course of the second month. He took the greatest care to supplement the anatomical treatment of fractures by methods calculated to restore the functional efficiency, considering the latter to be of primary importance. At the next meeting of the society, which was held on June 4th, M. Loewy said that in treating adults he had always obtained excellent results with Hennequin's apparatus, and he very seldom saw any indications for the ambulatory treatment of fractures of the femur. In applying ambulatory apparatus he would recommend the use of Hennequin's elevator (*treuil*) which remarkably facilitated all the manipulations. M. Judet said that he had treated two complete fractures of the femur in children of six and nine years respectively by means of a large spica plaster bandage like that used in coxalgia. Reduction was accomplished by manual extension. The patient being anæsthetised and laid on a pelvic support, counter-extension was provided for by an ascending perineal portion which pressed against the pubis. The result was perfect in both cases. M. Péraire said that ambulatory appliances ought to be used only for children, for fractures of the fibula or for fractures of the leg without much displacement, their action being merely to keep the bones in position. For fractures of the femur he thought that Hennequin's apparatus was best because it allowed the patient some freedom of movement and diminished the liability to thoracic complications.

*The Population of France in 1908.*

According to the French population statistics for 1908 the births in that year were 18,067 more and the deaths were 48,266 less than in 1907, so that as far as the joint effect of births and deaths was concerned the population for 1908 showed an increase of 66,333 over that for 1907. Notwithstanding the increased number of births recorded in 1908 (791,712 as compared with 773,645 in 1907), the fact remains that since the beginning of the twentieth century the years 1907 and 1908 were the only ones in which the number of infants born alive has been less than 800,000. The death-rate for the year 1908 was 190 per 10,000, being the lowest general death-rate recorded in France since the beginning of the twentieth century.

*The Professors and the Reorganisation of the Medical Curriculum.*

As mentioned in this column on March 6th (p. 727) the medical studies leading to the doctorate were reorganised by a decree dated Jan. 11th, 1909, but the date on which the new scheme would come into force remained for future consideration. The impending changes have already been criticised by practitioners, by candidates for graduation, by students, and, finally, by the professors who have formed themselves into an association and placed their views before the Minister of Public Instruction. This association, which has 350 members, at its first meeting advocated (1) the filling of vacancies in the medical teaching staff by competition and not by the routine promotion of lecturers (*par concours et non par privatdocentisme*); and (2) the continuance of specialised competitions but with a reduction in the number of special subjects provided for in recent decrees. The association further was of opinion that before candidates entered themselves for the special competitions their general knowledge of professional subjects should be tested by a *concours d'admissibilité* divided into the three sections of medicine, surgery and midwifery, and science. This examination would only give candidates the right of presenting themselves at the competition for the *agrégation*, and this right would be lost after a certain number of rejections at the *concours d'admissibilité*. Other recommendations were to the following effect: (1) that the jurors should be selected by lot from among the professors and *agrégés* and that the marks given to the papers (*épreuves*) should be entered on them at the time; (2) that the nomination of *agrégés* in the scientific sections should henceforth appear on one list for the whole of France, each *agrégé* choosing his Faculty according to his position in order of admission; (3) that in the medico-chirurgical sections there should as hitherto be one general competition (*concours*) but with nomination by Faculties; and (4) that on attaining the age of 60 years the *agrégés* should be placed on the retired list, the vacancies as they occurred being filled up by competition.

*Lumbar Anæsthesia by Novocaine.*

At the Surgical Society on June 30th M. Chaput read a paper on Novocaine Lumbar Anæsthesia, which he has employed in 135 cases, 32 of these being laparotomies. He met with no failure in inducing anæsthesia and no unfavourable complications or sequelæ. This method he considers to be absolutely safe if the dose is not allowed to exceed 5 to 7 centigrammes, which is sufficient for operations on the lower limbs and for hernia. M. Chaput knows no contra-indication to its use, as he has employed it without accident in very old people and in cases of very severe illness.

July 5th.

## ITALY.

(FROM OUR OWN CORRESPONDENT.)

*The New Lunatic Asylum.*

BEAUTIFULLY situated, some three miles from the Vatican, not far from the railway station of Sant' Onofrio on the Roma-Viterbo line, the "Nuovo Manicomio" was founded on June 29th with impressive ceremonial by His Majesty the King. In every detail the building, when completed according to its design, will be worthy of the capital of Italy. Accommodating more than 3000 patients in every category of mental disease, the "Manicomio" will represent the latest developments of psychiatry, systematic and clinical, and constitute an "object-lesson" in treatment and in instruction, by which the sister "Manicomi" throughout the kingdom may be expected to profit. The proceedings began with an address from the Senator Cencelli, who, in a rapid retrospect of previous methods of dealing with the insane, pointed out the vast progress made in Italy, as indeed throughout Christendom, in the care and cure of that "strangely visited people." Treated as objects of the just resentment of offended Deity these poor sufferers were housed in prison cells (when they were not burned at the stake), and dragged out a happily brief existence, squatting in filthy straw, often chained to the wall, and not seldom "kept in order" by the turnkey's lash. Classification of the several forms of insanity there was none—except in the case of the furiously maniacal who, thrust into a padded room, would "rampage" within its four walls till, suddenly stepping on a trap-door, they would sink to the neck in cold water—the so-called "bath of surprise." These and similar "methods" hardly less "barbarous" were in common practice, as the Senator Cencelli showed, up to 1850, although historic justice compels the remark that here and there throughout Italy a humaner, more enlightened treatment was in evidence. As far back as 1352 Bergamo, according to the Senator Cencelli, led the way in accommodating the insane in a special hospital under specially trained physicians, and later, in 1561, Rome made a still farther and notable advance in her Manicomio di Santa Maria della Pietà. In the "thirties" of last century Monsignor Mastai Ferretti, afterwards Pope Pius IX., who was officially interested in asylum administration, initiated the "non-restraint" system, and ever since Italy has taken cognisance of the contemporary improvement of clinical psychiatry, till now she has placed herself alongside of the most refined and efficacious practice of twentieth century civilisation. True, instances of "abuse," mainly due to false economy in the *personnel* and equipment of her asylums, have lately been put on record; but these, it is hoped, will disappear under the better conditions, financial and administrative, of which the noble institution founded on Tuesday last may be taken as at once the earnest and exemplar.

*The Doom of the Chestnut.*

Not only, as the Reafforestation Congress just held at

Bologna has shown, is the chestnut (mainly for the tanning industry) vanishing under the woodman's axe, but its existence is menaced by a scarcely less destructive, if insidious, enemy—disease. For years past the tree, with the fruit that it bears, has suffered from a "cryptogamic infection of the young branches" which brings in its train a "species of gangrene" spreading rapidly along the greater branches, descending to the trunk, and finally involving the roots. If not arrested in good time the disease will prove a national disaster—the chestnut being to the Italian peasant what the potato was (perhaps still is) to his Irish counterpart, for whom the privation of that esculent in the famine of the "forties" of last century meant starvation and death, and depopulation of the poorer districts. What is this chestnut disease? The failure to give an answer has long been one of the "opprobria" of science. Now, however, the researches of two nature-students of the Lombard School, Signor Briosi, professor of botany at Pavia, and his coadjutor Signor Farnesi, have brought the inculpated "cryptogam" to light, with the diagnostic signs of its presence and the consequent indication of the methods of antagonising it. These methods, tabulated for the instruction of the forester, particularly at the training schools of Vallombrosa and Cittaducale, will presently be put in practice, to the saving, we are assured, not only of the tree and of the food it yields, but also of many million francs—a loss incurred of late years by France and Spain, which, hardly less than Italy, are interested in the integrity and health of their chestnut forests.

July 2nd.

## BUDAPEST.

(FROM OUR OWN CORRESPONDENT.)

*Medical Practitioners in Budapest.*

ACCORDING to the latest Medical Directory the number of medical practitioners in Budapest amounts to 1407. Taking the population of the city as 848,000 persons, the proportion would be 16·6 practitioners for every 10,000 inhabitants. If this ratio is compared with that of other continental cities, then it will be seen that in Budapest it is much above the average. Among all the towns and cities of Germany Wiesbaden (where there are special medical conditions) is the only one in which the ratio would be so high as in Budapest. The number of practitioners per 10,000 inhabitants in some other continental cities is as follows: Berlin, 12·3; Hamburg, 7·8; Munich, 15·8; Frankfort, 12·1; Breslau, 11·6; Stuttgart, 9·6; Hanover, 10·9; Nuremberg, 7·6; Strasburg, 14·2; Cologne, 9·7; Dresden, 9·8; Bremen, 7·1; Leipsic, 9·6; and Mannheim, 7. In Vienna the number of practitioners amounts to 2946; this gives a ratio of 14·73 per 10,000 inhabitants if the population is taken to be 2,000,000.

*A Case of Multiple Sclerosis following Whooping-cough.*

Dr. Schiff has contributed to the study of multiple sclerosis a rare case of this condition occurring in a child after an infectious disease—namely, pertussis. In some published cases the interval between the pertussis and the attack of multiple sclerosis was too long to make the connexion between them quite obvious, but in Dr. Schiff's case there was practically no interval because the symptoms of multiple sclerosis appeared before those of the whooping-cough were entirely recovered from. The clinical history showed change in the speech of the scanning, monotonous type, intention tremor, nystagmus, exaggerated reflexes, and other symptoms. The diagnosis of neoplasm of the brain was regarded as impossible in consequence of the absence of pain, vomiting, and other pathognomonic symptoms. Friedreich's disease was excluded because it did not develop earlier than 10 years, the nystagmus was inconstant, the reflexes should be lost instead of increased, and the speech changes of Friedreich's disease did not resemble those of multiple sclerosis. The course of multiple sclerosis might be remittent or intermittent, and the symptoms might improve or disappear. The tremor varied at different times and in different cases. The gait was distinctly cerebellar, paretic, and spastic, while the speech disturbance was subject to great variation.

*Asepsis in Surgical Operations.*

At a recent meeting of the Medical Society in Nagyvárad Dr. Konrád said that the precautions generally relied on for obtaining asepsis in surgical operations were not always sufficient. His method of disinfecting the skin consisted in (1) 20 minutes' scrubbing with green soap and water; (2) three minutes' immersion in dilute acetic, citric, or oxalic acid; (3) five minutes' immersion in strong alcohol; and (4) five minutes' immersion in a solution of 1 part of mercuric chloride in 2000 parts of water. Dr. Konrád considered the use of indiarubber gloves open to the objection of macerating the cuticle; there was also a danger of their being punctured and allowing septic perspiration to escape. He deprecated mixing up the various stages of the process by using a combination of green soap and alcohol or by dissolving the mercuric chloride in alcohol, since aqueous solutions were more efficient than alcoholic. He advised disinfection of the hands one or more times during the course of long operations. Attention was called to the necessity of unusual care in the preparation of the field of operation in the vicinity of the pubes and vulva. He recommended absorbent rather than occlusive dressing of the wounds after the operation.

July 5th.

## NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

*Voluntary Closure of a Medical College.*

ONE of the most encouraging signs of progress in the attainment of a higher grade of medical education in this country is the tendency of the promotors of medical colleges to organise their methods of instruction according to the most approved ideals. The more recent effort to this end has been the merging of schools so situated and related that by the union of two or more a strong central school will be created. Recently the Faculty of the Nebraska College of Medicine, which is affiliated with the Nebraska Wesleyan University, petitioned the President of the University to allow the College to close its doors, giving as its reason the inability of the College to meet the "requirements insisted on by educators and the medical profession generally," and acknowledging that these requirements are not "in excess of what they should be, and this institution is in full harmony with that view." The Faculty adds: "We fully realise that to maintain our standing and dignity as medical teachers in the continuance of our College it will be necessary to add to our working force a goodly number of trained instructors; this we cannot do."

*The Adoption of the United States Pharmacopœia by the Cuban Government.*

The Cuban Government has adopted the United States Pharmacopœia as its official standard. This action suggests the possibility of its being the initial step towards the admission of delegates from the Cuban Government to the Pharmacopœial Convention of 1910. It has even been suggested that it may have a wider application and lead to an admission of delegates from other Latin American republics. Under the present constitution of the United States Pharmacopœial Convention representation is confined to organizations and institutions incorporated within the United States which have existed there continuously for five years immediately preceding the decennial convention, but provision is made for amendments to the constitution which shall have the approval of the board of trustees of that corporation. It is believed that the trustees anticipated that in planning the translation of the Pharmacopœia into the Spanish language and providing for its circulation among the Spanish-speaking peoples of this hemisphere, the contingency would arise to broaden the influence and scope of this publication, and the result would be a Pan-American Pharmacopœia created by a Pan-American convention.

*The American Medical Association.*

The recent annual meeting of this body at Atlantic City, a favourite health resort in summer, had an unusually large attendance and transacted a large amount of business of great importance to the profession. It is only within the last decade that the association has reached a position in which it may be said to exercise a controlling influence over the entire medical profession of the country. Its increasing power appears in its increasing membership; in 1899 the membership was 7997, and in 1909 it is 33,935, an increase

of 424 per cent. Its financial resources are shown in the statement of the auditor's report, from which it appears that its excess of assets over liabilities is $354,667.82. The weekly issue of the *Journal* of the association is upwards of 55,000 copies; the increase in the circulation of this periodical in ten years has been such that whereas in 1899 the average weekly issue was 13,672, in 1908 it was 53,978. The association owns its own building, laboratories, and printing presses, and pays liberally for all its service. Its work by committees extends to every State and even county, and yet it is free from organised factions, but is as democratic and representative as the general Government. Its committee on medical legislation now has a controlling influence on all Congressional legislation affecting the profession, and its services have proved of the greatest value in preventing improper measures from becoming laws and in securing the enactment of useful laws.

*The Conquest of the Tropics for the White Race.*

One of the most interesting features of the late meeting of the American Medical Association was the address of its President, Colonel W. C. Gorgas, M.D., chief sanitary officer of the Panama Canal Commission. As much has been said of the remarkable results of sanitation in that hitherto almost uninhabitable region, intense interest was excited by the details of the methods by which such far-reaching effects upon human civilisation were accomplished. Perhaps the most striking feature of the methods adopted was their extreme simplicity and practicability. Aside from securing the ordinary conditions necessary to health, as cleanliness, good food, protection from exposure to the elements, and temperance in all things, the entire energy of the "sanitary squad" was directed to the destruction of one species of mosquito, the anopheles. The life-history of this mosquito is now so thoroughly understood that measures for the prevention of its propagation by the destruction of its breeding places can readily be applied. The female lays her eggs on the surface of fresh water in which grass and algæ are abundant; the eggs float until they are hatched out, when the larvæ seek the grass and algæ for protection; in about eight days they develop into full-grown mosquitoes; the anopheles is weak in wing, and 100 yards is its ordinary flight; the adult avoids the wind and seeks grass and plants near the ground. These facts explain the methods employed—viz., drainage when practicable; brush, grass, and algæ cutting around lake, ponds, and swamps; sulphate of copper for killing algæ; petroleum for killing larvæ floating on water; phinotas oil as a direct poison for the larvæ. The measures for the destruction of the anopheles which causes malaria, and the stegomyia which causes yellow fever, also prove to be effective against other common species, as the culex, which is strong on the wing. The sickness and death-rates presented by Colonel Gorgas to illustrate the results of his labours in the sanitation of the Panama zone are impressive. Colon, a town of 15,000 inhabitants, built on an island just above sea-level, infested with mosquitoes of every kind, and having formerly a high malarial sick- and death-rate, is now almost entirely free from mosquitoes, and consequently of malarial diseases. This result was secured by cutting away all the brush half a mile around the town, intersecting the cleared space with small canals which drained away the fresh water and allowed the incoming tides to fill them with sea-water daily, and treating all water retainers with petroleum. The death-rate of the Canal zone was 31·60 per 1000, but is now 18·95 per 1000. The death-rate among Government employees was in 1906 41·37 per 1000, and in 1908 13·01 per 1000. Colonel Gorgas concluded his address with the remark that the white man can live in the tropics and enjoy as good health as in the temperate zone; the returns for labour are many fold greater in the tropics than in the temperate zone; hence during the next few centuries the tendency will be for the white man to migrate to the tropics. He predicted that after the lapse of a period equal to that which now separates 1909 from the Norman Conquest of England the tropics will show centres of as powerful and as cultured a white civilisation as any that will then exist in the temperate zones.

*Another International American Medical Congress.*

The Government and the medical profession of the Argentine Republic have issued a circular of invitation to the nations of America to coöperate in an international congress to open on May 25th, 1910, at Buenos Ayres. This will be the centennium of the foundation of the Republic. A committee on organisation is actively at work and the members of the profession in the three Americas are urged to coöperate in making the congress an important scientific event.

June 26th.

## NOTES FROM INDIA.

(FROM OUR OWN CORRESPONDENTS.)

*Rabies in India.*

RABIES is by no means an uncommon disease in the East amongst domestic animals, especially pariah dogs, and also to some extent amongst wild animals, chiefly jackals, which get the credit, more than any other animal, of keeping the disease going and spreading it in their nightly encounters with village dogs. In 1900 the Government of India equipped a special institute to undertake the Pasteur treatment of rabies and located it at Kasauli, in charge of Lieutenant-Colonel D. Semple, R.A.M.C. More recently a second Pasteur Institute has been formed in Southern India, and this is in charge of an officer of the Indian Medical Service, and another is now in course of construction in Burma. The seventh annual report of the anti-rabic treatment carried out in the Pasteur Institute at Kasauli has just been published. It is very late in appearance but contains some interesting information. The number of patients under treatment (1349) during the year under review was considerably greater than for any of the preceding 12 months and the percentage of recoveries was also considerably greater (99·56). Since the establishment of the institute in 1900 there has been a steady increase in the number of patients as will be seen from a comparison of the figures given below:—

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| First | year from August 9th, | 1900, | to August 8th, | 1901 | ..... | 321 |
| Second | ,, ,, | 1901, | ,, ,, | 1902 | ..... | 543 |
| Third | ,, ,, | 1902, | ,, ,, | 1903 | ..... | 584 |
| Fourth | ,, ,, | 1903, | ,, ,, | 1904 | ..... | 612 |
| Fifth | ,, ,, | 1904, | ,, ,, | 1905 | ..... | 877 |
| Sixth | ,, ,, | 1905, | ,, ,, | 1906 | ..... | 1145 |
| Seventh year (*interim*) August 9th, | | 1906, | ,, ,, | 1907 | ..... | 1308 |
| Seventh year from Jan. 1st to Dec. 31st, | | | | 1907 | ..... | 1349 |

The increase is chiefly among native patients.

During the year under report, of the total number of patients treated there were 433 Europeans and 916 natives, compared with 452 Europeans and 856 natives treated during 1906–07, thus showing a decrease of 19 in the case of Europeans and an increase of 60 in that of natives, or a total increase of 41. In comparing the figures given in previous reports with those of the present one, it must be remembered that the former relate to the period from August to August, while the latter are for the calendar year. They include, therefore, certain statistics given in the last (*interim*) report. The year's work, however, shows an increase over that of any previous year. There were 181 patients who belonged to the British Army, as against 187 in the year 1906–07. In the case of patients belonging to the Indian army, there were 151, as against 145 in the year preceding, making a total of 332 military patients during the year under report as in the year 1906–07. Of European and Indian civilians there were 186 and 831, as against 191 and 785 respectively in the year 1906–07. The numbers of patients from different provinces of India were as follows: Punjab, 372; United Provinces, 209; Bengal, 182; Bombay, 163; Madras, 49; Central Provinces, 204; Burma, 31; North-West Frontier Province, 47; Assam, 49; and Rajputana, 36. There were five patients from Kashmir and two from Ceylon. The only decreases are in the cases of patients from Madras and Ceylon, and these may be attributable to the opening of a Pasteur institute at Coonoor. A table is also included classifying the Indian patients according to caste, and this shows clearly that the fears at one time entertained that caste prejudices would prevent Indians availing themselves of the anti-rabic treatment have in practice proved groundless. Men of all castes readily avail themselves of the treatment, and there is no doubt about the practical value of the work which is being done. Unfortunately, Indians bitten by animals that are mad or suspected of rabies too often delay proceeding to Kasauli for treatment, and the

report contains particulars of 12 deaths that occurred either during treatment or within 14 days of the completion of treatment. The majority of these cases arrived late and all were badly bitten. These are not classed as failures, as the treatment had not time to develop its effect before death ensued from the bites. Of the six cases classed as failures, five were bitten on the bare skin, and the sixth was bitten through the thinnest clothing, and there were four very deep wounds. In one of the cases of failure hydrophobia developed seven months after treatment. In the course of the report Major G. Lamb, I.M.S., gives an account of the improved method of preparing the anti-rabic vaccine, which is much simpler than the method originated by Pasteur, in that the strength of the doses can be more accurately fixed, and that there is very much less chance of disagreeable after-effects to the patients, in fact, since the method has been adopted at Kasauli no such after-effects have been observed.

In the balance-sheet appended to the report are given the details of the income and expenditure of the institute during the financial year ended March 31st, 1908. The total income, including the balance of the previous year, was Rs. 57,295–4–9, and the expenditure amounted to Rs. 36,627–11–9, leaving a balance of Rs. 20,667–9–0. Most of the balance will be absorbed in very necessary repairs and additions to the buildings of the institute at Kasauli. The sum of Rs. 15,000 will be placed to the credit of a building and repair fund in accordance with a resolution passed at a meeting held on Oct. 16th, 1908.

*Ambulance Work in the Punjab.*

A central Punjab branch of the St. John Ambulance Association has been formed, mainly through the enterprise of Dr. C. A. Owen of Lahore, the Lieutenant-Governor and the Bishop of Lahore having consented to act as president and vice-president respectively, while an influential committee has been got together. A "first-aid" class will be instituted as soon as possible. The course of instruction will consist of lectures with practical work given at intervals of a week. The class will then be examined and certificates awarded to successful candidates. Certificated candidates will be formed into ambulance divisions, which will meet once a month for instruction. These ambulance divisions will be available for grave public disasters, such as earthquakes, fires, and railway accidents. It is also proposed to start classes at once for railway servants and the police, it being recognised that a knowledge of the principles of "first aid" is essential to both in the interests of the public, if not of themselves.

*Strange Coincidence: New Waterworks and Increased Death-Rate.*

The annual report of the Sanitary Commissioner of the Government of Bombay contains a tabular statistical statement showing the average annual death-rate in the principal towns of the Bombay Presidency since the completion of their drainage and waterworks. These rates he contrasts with the average annual death-rate of the five-year period preceding the introduction of the new water and drainage system and also with the mortality-rate for the surrounding rural districts in which these towns are situated. On comparison the figures seem to indicate a rather peculiar state of affairs in the case of Ahmedabad and Karachi, whereby the rate of mortality since the introduction of the new water and drainage systems is much in excess of what the average was for the five years prior to their introduction and also of that in the surrounding rural districts. The Sanitary Commissioner offers no explanation of these remarkable statistics, which show a contrary result to the great advantages caused by the introduction of piped water supplies into other cantonments occupied by British troops.

June 1st.

## CHINA.

(FROM OUR OWN CORRESPONDENT.)

*Plague in the Island of Hainan.*

AMID the mass of research work and investigation on the subject of plague there seems room for more detailed information at regular intervals on its geographical distribution, more particularly with reference to endemic foci in places which may be out of the beaten track and yet in sufficiently frequent communication with other parts to be a chronic source of infection. One typical example of such a place is the island of Hainan, about 12 miles from the mainland of the south coast of China. It is almost a *terra incognita* to the world. Nearly all its trade is carried on with Hong-Kong, to which it exports pigs, poultry, eggs, bullocks, vegetables, and other provisions in large quantities. At Kiungchow, which is the seat of the government, there is a population of 50,000, and at Hoihow, the main seaport, there are about 30,000. The rest of the population is dotted about the island in small overcrowded villages. Some years ago a French government medical officer of the Tonkin medical staff was detailed to Hoihow for the purpose of giving the natives and others free attendance and medicine, otherwise the natives depend for help on a small number of medical missionaries belonging to the American Presbyterian Mission. As far as can be ascertained plague was introduced from Canton to Hoihow in 1895 and worked havoc there, the mortality being 75 per cent. From there it spread to surrounding villages and other parts of the island. Curiously enough, no case has been reported from Hoihow since that year, though it has become endemic in the Simkow district, only 30 miles distant, and has spread to Nodoa and neighbouring market towns, which carry on a large junk trade with Simkow because of its superior harbour and native shipping facilities. Epidemic outbreaks are invariably preceded by an easily noticed heavy rat mortality. In Nodoa the people carry out basket-loads of dead rats and dump them in a pool of water or upon the soil. In Namfong market town, however, rats died both last year and this without giving rise to the human epidemic. In Notia market, 15 miles from Nodoa, there are plague outbreaks every winter, and on the first appearances of cases the people move out into booths near the market. Nodoa and Notia both have shaded streets, poor drainage, and are filthy. The natives are notoriously dirty and poverty stricken. The rats like the grass thatching over these streets and breed in it in great numbers. The severest epidemic in Nodoa was in 1905 and it recurred last year and this year; last year it was not so severe as this year. Out of about 1000 inhabitants, from 200 to 300 have died this year. In Notia the mortality is never great and it continues from season to season with great regularity. The Chinese say that where the mortality is very great plague is wiped out completely, and this theory of survival of the fittest (i.e., the most immune) is given colour to by the high mortality which attended the first and only epidemic we know of in Hoihow. In the outlying villages, where the people have no great business interests at stake, as in the larger market towns, whenever there are signs of plague outbreak they all move out into booths, as they generally have made the observation that when they promptly clear out of their houses they avoid an epidemic. Dr. J. F. Kelly, to whom I am indebted for a good deal of my information, says that though the Christian followers of his Mission have had rats dying in their compound, they have all escaped by observing cleanliness and the use of disinfectants. He has identified the bacillus pestis to make sure of the epidemic, and adds that the intestinal form prevails extensively. Hainan would be an interesting field for the further study of plague epidemiology, as outbreaks rise and fall without any preventive measures being taken by the authorities. It also suffers from periodical visitations of cholera. The climate is favourable to the health of the foreigner. The temperature ranges from 52° to 95° F. Tropical thunderstorms are of frequent occurrence throughout the spring and early part of the summer, and the accompanying rainfall at times is very heavy. According to the Customs meteorological tables the highest rainfall for one day was 2·40 inches, which occurred in the month of September.

*Plague in Shanghai and North China.*

With regard to the outbreak last year in North China, at Tongshan, in spite of predictions to the contrary, there have, so far, been no further reports of cases, although the hot season has set in—the maximum shade temperature last week being 106° F. Attention to sanitary details, rat catching, &c., combined with the long very cold winter, have all no doubt militated against plague becoming endemic in this region. In Shanghai, up to the present, the medical officer of health, Dr. A. Stanley, can reasonably claim to have

done a good piece of plague prevention work, as the following figures will show:—

*Plague Among Rats: Comparative Monthly Figures.*

| — | Dec. | Jan. | Feb. | March. | April. |
|---|---|---|---|---|---|
| Rats examined ... ... ... | 1359 | 1118 | 1375 | 2585 | 1897 |
| Plague infected ... ... ... | 50 | 26 | 30 | 41 | 21 |
| Percentage infected ... ... | 3·7 | 2·3 | 2·2 | 1·6 | 1·1 |
| Corresponding figures for Bombay ... ... ... ... | 3·5 | 5·4 | 12·9 | 26·4 | * |

* Not yet received.

There have been no cases of human plague either in the European or Chinese population, and, as regards the latter, a noteworthy feature has been the absence of any marked degree of opposition, coöperation being given to a greater extent than would naturally be expected, a circumstance probably due to the use of tact and forbearance, and especially to the use of the Chinese language by the foreign staff, who thus get into much closer touch with the native community. The active rat destruction undertaken by Dr. Stanley from the outset brings into prominence the economy of preventive plague administration, as compared with the expensive measures entailed in suppressing an outbreak of human plague, in addition to the annoyance to the community and interference with trade.

Peking, June 9th.

# Obituary.

## NATHANIEL JOSEPH HOBART, M.D. GLASG., M.R.C.S. ENG.,

CONSULTING SURGEON TO THE NORTH INFIRMARY AND CITY OF CORK HOSPITAL, ETC.

THE recent announcement of the death of Dr. Nathaniel Joseph Hobart caused considerable regret in Cork, especially amongst his medical colleagues. Dr. Hobart became a Member of the Royal College of Surgeons of England in the year 1846. The following year he obtained his degree in medicine at the Glasgow University, and at the time of his demise cannot have been very far from the patriarchal age of 90 years. He was for many years one of the visiting surgeons of the North Infirmary, Cork, and always kept fully abreast with the progress of medical science. When antiseptic surgery was introduced he at once recognised its worth and strongly advocated its adoption. He was enthusiastically interested in his hospital work and devoted the greatest possible attention to the patients entrusted to his care. When advancing years compelled him reluctantly to resign his hospital appointment the board of governors, anxious still to retain some of his valuable services and also with a view to expressing their high opinion of his great worth, unanimously appointed him consulting surgeon of the institution. He had also earned the rank of consulting surgeon to the Hospitals for Incurables, for the Eye and Ear, and for Women and Children, in Cork, and his leadership in the profession was acknowledged by his successive election to the presidencies of the Cork Medical Society, of the Irish Medical Association, and of the Cork branch of the British Medical Association. He established for himself a great reputation as a surgeon and enjoyed a large private practice in the city and county of Cork. A kindly, genial manner endeared him to his patients. As a consultant he was a great favourite with the younger practitioners, as he was always most courteous to them and ever punctilious in the observance of professional etiquette. He had a bright, cheery manner and was a delightful *raconteur*. When "the Battle of the Clubs" at Cork was started he was appointed chairman of the professional meetings and was a most regular attendant at them. If any little differences of opinion occurred, the chairman's suave manner tended to at once dispel them and to preserve the wonderful cohesion which characterised the action of the Cork medical men in the face of grave difficulties. There can be no doubt, too, that his calm judgment and mature experience largely aided in the accomplishment of the victory which was eventually secured. Dr. Hobart's funeral was private; had it been otherwise, his professional brethren would by their attendance at his grave have expressed their high esteem and their great respect for his memory.

## CAWAS LALCACA, M.D. BRUX., L.R.C.P. LOND., L.M.S. BOMBAY.

THE indignant horror of the community at the cowardly assassinations of the late Sir Curzon Wyllie and Dr. Cawas Lalcaca must be shared by all our readers, and while the medical profession has to lament in the murder of the Parsi gentleman a professional brother, who was held in high estimation by his acquaintances, the tragedy is softened by the melancholy reflection that he gave his life in a vain attempt to save that of another man for whom he appears to have felt a profound devotion. The evidence as to the exact details of the double murder is a little confused, but from the murderer's own statement to the police there seems no doubt that he shot Dr. Lalcaca, who sprang forward to come to grips with him as soon as he had fired at his first victim.

Dr. Lalcaca was born at Allahabad and became a student of the Grant Medical College in Bombay, where he held the Anderson scholarship in practical surgery and obtained the Licentiateship of Medicine and Surgery in 1884. In the same year he came to England and became a Licentiate of the Royal College of Physicians of London, which he followed by taking the M.D. at Brussels in 1885, after taking out a course in practical anatomy at University College, London. Returning to Bombay he gained some surgical experience as a hospital resident and then proceeded to Shanghai, where he has practised for over 20 years with industry and success, obtaining his first introduction from his uncle, a prominent Parsi merchant in the Chinese towns. At the time of his death he was enjoying a well-earned holiday in this country. The details of his murder at the close of the Indian reception on July 1st were given such wide publicity in the daily press that there is no need for us to repeat them. He died as he was being removed to St. George's Hospital and an inquest was held on his body at the Westminster coroner's court on July 5th, when a verdict of "wilful murder" was returned against the student Dhingra. The medical evidence was given by Mr. R. S. Trevor, pathologist at St. George's Hospital, who stated that he had found in the right breast an oval bullet wound half an inch in its greatest diameter, the direction of entrance of the bullet being downwards. There was another bullet hole in the top of the lower lobe of the right lung. That lobe of the lung was penetrated by the bullet. One bullet, unaltered in shape, was found embedded in the left side of the pelvis. He failed to find the second bullet. The cause of death was hæmorrhage and shock from injuries produced by a bullet wound entering the body at the back. The bullet entered the back of the right shoulder when Dr. Lalcaca was stooping forward.

To his professional ability and personal charm several of his friends have borne witness in the columns of the *Times*, and we quote from two letters published last week in that journal. Sir Henry Morris, who had met him in professional consultation, wrote: "In addition to his evident efficiency as a medical man, Dr. Lalcaca had much in his favour to commend him to others. Of fine physique and very handsome features, he was a man of most charming manners and of very attractive address, and he seemed full of living energy and of physical and moral courage." And the Rev. T. J. Rhivertaft bore like testimony to his exceptional qualities in these words: "I have never met any man who, although a non-Christian, had so deep a sense of the duty of following the guidance of conscience and of helping others. He had the *anima naturaliter Cristiana*, and on a rather trying railway journey this Parsi gentleman taught his companions many lessons by his sympathetic kindliness and self-forgetfulness in his efforts to make others comfortable. I for one was not surprised to learn that he perished trying to save the life of another." Dr. Lalcaca was under 50 years of age and was unmarried.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The death of the following eminent foreign medical man is announced:—Dr. Paul Langerhans of Berlin, whose name is known as an active politician both in Parliament and in the municipal council. In the latter position he helped to carry out many sanitary reforms. In early life he practised as a medical man. He was 89 years of age.

# Medical News.

UNIVERSITY OF CAMBRIDGE.—The following appointments have been made:—Assistant to the Professor of Chemistry: Mr. John Read, Ph.D. Zürich. Examiners for Part II., Third M.B.:—Medicine: Dr. J. Rose Bradford, Dr. J. B. Bradbury, Dr. G. N. Pitt, and Dr. Frederick Taylor. Surgery: Mr. T. H. Kellock, Mr. Stanley Boyd, Mr. L. A. Dunn, and Mr. Raymond Johnson. Midwifery: Dr. W. R. Pollock and Dr. H. Spencer.—The following degrees were conferred on June 22nd:—

*D.Sc.*—H. E. Durham, King's.
*M.B.*—C. E. M. Jones, King's.
*B.C.*—J. L. Joyce, King's; R. R. Armstrong, A. Barker, W. Harmens, H. E. S. Stiven, and G. Walker, Trinity; M. W. Baker, St. John's; L. B. C. Trotter, Clare; F. H. Lester, A. L. Sachs, and C. F. Searle, Pembroke; R. Cox, Gonville and Caius: A. H. Hapford and F. S. Scales, Jesus; and K. Comyn, H. Selwyn.

UNIVERSITY OF BIRMINGHAM: FACULTY OF MEDICINE.—The following is a list of the successful candidates at examinations held in June:—

*I. Degrees of Bachelor of Medicine and Bachelor of Surgery.*—(a) Official: William Frederick Haslam and Percival Pasley Cole. (b) Under ordinary regulations: †Walter Charles Blackham, Herbert Henry Sampson, Harold Cairns Terry, Ethel Annie Waldron, and Kenneth Douglas Wilkinson.

*II. Fourth Examination for the Degrees of M.B., Ch.B. (Forensic Medicine and Toxicology and Hygiene and Public Health).*—Class I.: *Eric Walter Assinder. Class II.: Elizabeth Stephens Impey, Arthur Harry Newton, John Lichtenstein Ritchie, and Cranston Walker.

*III. Third Examination for the Degrees of M.B., Ch.B. (Pathology and Bacteriology and Materia Medica and Pharmacy).*—Class I.: *Oscar Madeley Holden. Class II.: James Henry Bampton, Robert Baxendell Coleman (Materia Medica and Pharmacy), Christopher Charles Cole Court (Pathology and Bacteriology), Evan Davies (Pathology and Bacteriology), Travis Hampson (Pathology and Bacteriology), Charles William Hayward (Pathology and Bacteriology), Elizabeth Stephens Impey (Materia Medica and Pharmacy), Charles Crawford Jones, Douglas Noel Macleod (Pathology and Bacteriology), Ronald Douglas Nelson, Percy Alfred Newton, Arthur McLean Pickup (Materia Medica and Pharmacy), Charles Ernest Salt, and Arthur Christopher Tibbits.

*IV. Second Examination for the Degrees of M.B., Ch.B. (Anatomy and Physiology).*—Class II.: George Herbert Alabaster, Edward Bach, Ralph Alexander Broderick, Eric Francis Buckler, Elsie Mary Humpherson, John Christopher Jones, John Burman Lowe, Douglas Noel Macleod, Horace Clarence Nickson, Herbert Sheasby, and Charles Lovell Spackman.

*V. First Examination for the Degree of M.B., Ch.B. (Chemistry, Physics, and Biology).*—Class II: Elizabeth Labrey Ashby, Robert Ellis, James Henry Ritchie, and Thomas Sidney Stafford (Biology). External Candidates: Koch Harry Gill (Chemistry and Biology) and Alfred Percy Smith.

*VI.—Examination for the Degree of B.Sc. in Public Health.*—Parts I. and II. Class II.: John Dale.

*VII.—Diploma in Public Health.*—Parts I. and II.: William Morton Hewetson and Alexander McDonald Nevin. Part II. (to complete Examination): James Allen Ainscow, James Fenton, Claude Johnson, Reginald Woolsey Stocks, and Leonard Leigh Hadley. Part I.: Richard Clayton Allen, Donald Buchanan, John Milne Dalrymple, and Philip James Mason.

*VIII.—First Examination for the Diploma in Dental Surgery (Chemistry and Physics)*: Arthur Bernstein.

*Queen's Scholarship. † Ingleby Scholarship.

FOREIGN UNIVERSITY INTELLIGENCE.—*Basle:* Dr. E. Magnus-Alsleben has been recognised as *privat-docent* of Medicine.—*Berlin:* Dr. Hans Piper has been appointed Extraordinary Professor of Physiology.—*Berne:* Dr. H. Matti has been recognised as *privat-docent* of Surgery.—*Breslau:* Dr. Joseph Forschbach has been recognised as *privat-docent* of Medicine.—*Caen:* Dr. P. E. Léger has been appointed Professor of Clinical Medicine.—*Vienna:* Dr. Walter Zweig has been recognised as *privat-docent* of Medicine.

THE Eleventh South African Medical Congress will be held in Durban Town-hall, Natal, from Monday, August 2nd, to Saturday, August 7th inclusive. His Excellency Sir Matthew Nathan, K.C.M.G., R.E., Governor of Natal, has consented to open the Congress, the officers of which are as follows:—President: Dr. H. A. Dumat. Vice-Presidents: Dr. W. Watkins-Pitchford and Dr. W. J. Hill. Honorary secretary: Dr. P. Murison. Honorary treasurer: Dr. G. L. Bonnar. Arrangements have been completed regarding the following sections:—Medicine (President: Dr. Hugh Smith); Surgery (President: Dr. E. T. E. Hamilton); Obstetrics and Gynæcology (President: Dr. W. H. Maxwell); Public Health (President: Dr. A. M. Fleming, C.M.G.); Ophthalmology (President: Dr. H. Symonds); and Special subjects, including medico-social topics (President: Dr. D. Macaulay). A good list of papers has been promised and arrangements are in progress for the organisation of a museum and of various entertainments for those who attend the Congress.

THE BRUSSELS MEDICAL GRADUATES' ASSOCIATION.—The annual meeting and dinner of this association will be held at the Garden Club, Imperial International Exhibition, on Thursday, July 15th, at 7.45. Members are invited to bring ladies. Tickets may be obtained from the honorary secretary, Dr. Arthur G. Haydon, 23, Henrietta-street, Cavendish-square, London, W.

BURTON-ON-TRENT INFIRMARY.—A new eye department has been opened at Burton Infirmary and has been placed under the charge of Mr. E. C. Green, ophthalmic surgeon to the Derbyshire Royal Infirmary, who has a well-equipped and modern department at his disposal. The new buildings which have been erected included increased accommodation for the nurses of the infirmary.

A WOMAN HEALTH VISITOR FOR BRIGHTON.—The Brighton town council on July 1st appointed Miss Floyd Bowen, of Llandaff, Cardiff, as female health visitor and inspector of midwives for the borough, at a salary of £80 per annum with suitable uniform. The appointment is in connexion with the Notification of Births Act, which the council adopted some time since. The sister town of Hove adopted the Act and appointed a health visitor last year.

EPSOM COLLEGE.—Founder's Day at Epsom College will be celebrated on July 24th. The proceedings will be opened by choral evensong in the College chapel at 2.45, at the close of which the Thornton memorial window will be unveiled by the Rev. Hubert Curtis, O.E., Hon. Canon of Rochester. At 3.30 the prize distribution will be made in the big school by Sir Walter Foster, M.P., who will also address the school.

LITERARY INTELLIGENCE.—Messrs. W. B. Saunders Company, 9, Henrietta-street, W.C., announce for early publication a work on "Exercise in Education and Medicine," by Dr. R. Tait McKenzie, Professor of Physical Education, University of Pennsylvania. This work will deal with the application of systematised exercise in the development of the normal body and in the correction of certain diseased conditions in which gymnastics have proved of value.

THE SOCIETY FOR THE STUDY OF INEBRIETY.—The third Norman Kerr lecture will be delivered by Professor Taav. Laitinen, M.D., professor of hygiene and director of the Hygienic Institute in the University of Helsingfors, Finland, on Tuesday, July 20th, at 8 P.M., in the lecture theatre of the Victoria and Albert Museum, South Kensington. The subject will be the Influence of Alcohol on Immunity.

THE ROYAL SOCIETY OF ARTS.—At the annual general meeting of this society, which was held on June 30th, Sir William H. White, chairman of the council, being in the chair, the Prince of Wales was re-elected President for the ninth time. The annual report was read. It announced, *inter alia*, the award of the Swiney prize for the best published work on Jurisprudence to Dr. Charles A. Mercier, for his book, "Criminal Responsibility." The failure of recent negotiations to amalgamate the London Institution with the Society of Arts, which now numbers 3490 members, was recorded.

THE LONDON SCHOOL OF MEDICINE FOR WOMEN.—The annual prize-giving at the London (Royal Free Hospital) School of Medicine for Women took place on Friday, July 2nd. Miss Cock, the Dean, who presided in the absence of Mrs. Garrett Anderson, said that two of their graduates had received University scholarships—Enid M. Walters having won the Gilchrist Studentship for Women at the University of London, and Emily H. Morris the R. C. Brown Scholarship for research in special pathology at Cambridge, a prize to be regarded as of special importance. A large number of graduates had received appointments as medical inspectors of schools—a work for which women were eminently fitted. They wanted many more women medical students. There was work waiting for them, and they had

not enough women to do it. Lady Northcote, having distributed the prizes and certificates, congratulated the students upon their splendid work, the result of which she considered wonderful. In India and Australia she had seen women achieve great things. It was their duty and their privilege to minister to the sick and suffering, and that school helped them to discharge that duty, not only with sympathy, but with professional skill. The large number of guests who were present at the prize-giving were afterwards entertained at tea in the school garden.

MEDICAL GOLFING SOCIETY.—This society held its annual tournament on June 24th at Burnham Beeches by kind invitation of the Burnham Beeches Golf Club. The "Henry Morris" Challenge Cup and the Medical Golfing Society's Gold Medal were won by Dr. W. Page May. The first prize in Class I. (handicaps 12 and under) in the 18 holes match play *v.* Bogey was also won by Dr. W. Page May with the excellent score of 4 up. The second prize in this division was gained by Dr. W. Bramwell Reid (3 up) after a tie (decided on first nine holes) with Mr. H. Cleveland Smith and Dr. F. Foord Caiger. The prize for the best last nine holes was taken by Dr. Foord Caiger (4 up). In Class II. (handicaps over 12) Mr. Herbert J. Paterson was the winner with 3 up, while Dr. Edward Law was second with 2 up. The prize for the best last nine holes also went to Mr. Paterson (2 up). The foursome sweepstake was won by Dr. G. A. Sutherland and Mr. Bruce Hamilton with 1 up. The second place was tied for by Mr. Herbert Tilley and Mr. J. Mansbridge, and Mr. J. R. Walker and Dr. C. M. Anderson, who returned cards "all square." This tie will be played off shortly, as they were also "all square" on first nine holes. Mr. P. Edgelow and Mr. P. Kolesar were "all square" on the round of 18 holes, but they were 1 down on the first nine.

ALLEGED IMPERSONATION OF A MEDICAL MAN.—At the Stockton police-court on June 30th Adam Melrose Porteous was charged with obtaining money and food from the Visiting Committee of the Durham County Asylum on false pretences. It was alleged by Mr. Luck, who appeared on behalf of the Public Prosecutor, that the accused man was a member of the College of Veterinary Surgeons and that after applying unsuccessfully to Messrs. J. and A. Churchill to have his name placed on their Medical Directory, in the spring of last year he applied to Messrs. J. C. Needes, medical agents in London, declaring himself to be Dr. William James Porteous, a Bachelor of Medicine and Surgery of Edinburgh. Through this firm he obtained an introduction to the Durham County Asylum where for over four months he performed the duties of a *locum tenens* assistant medical officer, obtaining salary and emoluments valued at nearly £120. He was placed in charge of a chronic ward, the work of which he is alleged to have performed very well. After leaving the asylum he obtained a post as ship's surgeon, and during his absence on a voyage his alleged imposture was discovered, which led to his arrest on his return to England last month. He had been given ample opportunity to produce evidence of his medical qualifications, but had failed to do so. Evidence was given in support of all these statements and the accused reserved his defence. He was committed to take his trial at the next Durham Assizes, bail of £100 being deposited by his wife for his appearance.

# Parliamentary Intelligence.

## NOTES ON CURRENT TOPICS.

### *Medical Men and the Petrol Duty.*

THE CHANCELLOR of the EXCHEQUER has agreed to grant a rebate of a half of the duty on the petrol used in the propulsion of the motor-cars of medical men. Mr. LLOYD GEORGE made this announcement to the deputation from the British Medical Association and the medical committee of the Motor Union which he received on July 1st. The deputation was a small one. Mr. COOPER, M.P., introduced the representatives of the British Medical Association, who were, Dr. H. E. B. BRUCE-PORTER, Dr. C. PERCIVAL WHITE, Mr. C. E. S. FLEMMING (Bradford-on-Avon), Dr. E. G. GRIFFITH, and Mr. J. S. WHITAKER, secretary of the political committee of the Association. Mr. JOYNSON-HICKS, M.P., who has several times in the House of Commons put forward the claims of medical men to a rebate on their petrol, introduced the two gentlemen who came to represent the medical committee of the Motor Union, Mr. C. B. LOCKWOOD of St. Bartholomew's Hospital and Dr. J. ORR of Edinburgh.

The proceedings took place in private. A memorandum was submitted to the CHANCELLOR of the EXCHEQUER setting out in a succinct form the contentions of the deputation. Its terms were as follows:—

1. The motor-car is a necessity to a medical men, and especially to those medical men engaged in country practice.

2. The motor-car has on many occasions enabled medical men to afford prompt help in cases of emergency and has saved lives which would otherwise have been lost. Obviously the motor-car has alleviated much pain and suffering.

3. The medical man uses his car for professional work and not for pleasure.

4. The quantity of petrol used by the medical man engaged in a widespread country practice or in a hilly district is, we estimate, about 20 gallons per week, or 1040 gallons per annum. The tax thereon would amount to about £13 per annum, probably more than the medical man already pays in income tax.

5. Horse-drawn vehicles lead to wear and tear of the roads and probably to as much wear and tear as the small motor-car, but whilst the owner of the horse-drawn vehicle will only pay 1 guinea in taxation the owner of the small motor-car (say, 12 h.p.) would be paying £10 7*s.*, made up as follows:—

| | £ | *s.* | *d.* |
|---|---|---|---|
| Half licence ... ... ... ... ... ... ... | 2 | 2 | 0 |
| Two driving licences ... ... ... ... ... ... | 0 | 10 | 0 |
| Registration (say £1 to every four years), average ... | 0 | 5 | 0 |
| Petrol duty ... ... ... ... ... ... ... | 7 | 10 | 0 |
| | £10 | 7 | 0 |

6. It is to be noted that only a small part of the work of the medical man is done on the main roads, to the improvement of which the duty is to be devoted.

7. Having regard to the above considerations the deputation submit that medical motorists should receive at least the same relief as that which the Chancellor of the Exchequer grants to those who use motor-cars for commercial purposes.

It should be mentioned that the Finance Bill provides that a rebate o half the duty on the quantity of petrol consumed in their propulsion is to be given to commercial vehicles and vehicles such as motor-cabs and omnibuses.

Mr. COOPER, in addressing the Chancellor of the Exchequer, pointed out that the great majority of members of the medical profession who used motor-cars did so in order to carry on their duties more efficiently. The car of the medical man was not as a rule of a luxurious type, but only such a serviceable and inexpensive vehicle as would enable him to go the round of his patients expeditiously. To levy a duty on the petrol which it consumed was to tax a commodity which was a necessity and not a luxury. On that ground he hoped that the Chancellor of the Exchequer might at least put the motor-car of the medical man on the same basis as the commercial vehicle. These remarks were enforced by Dr. BRUCE-PORTER, Mr. LOCKWOOD, and others, who emphasised the fact that they spoke on behalf of a profession which was hard-worked and often inadequately remunerated.

The reply of the CHANCELLOR of the EXCHEQUER was sympathetic. He remarked that he had the greatest sympathy with the medical man both in the town and in the country. He recognised to the fullest degree that medical men ought to have at their command the most expeditious means to enable them to bring relief to the suffering. It was not his desire to do anything to stand in the way of their using motor-cars. He had lived in the country himself and he was aware that it was not always the medical man with the largest number of patients who made the largest income. A country medical man could not refuse to attend people who already owed him a heavy bill. He might grumble, but he gave his services. If a man owed money to his solicitor and went to him for advice, the solicitor would at once decline to do anything until his account had been paid. Medical men could not take up that attitude in a country district. Therefore, in the matter of taxation, the right honourable gentleman thought that they ought to be treated generously, where that could be done. He mentioned that he had been consulting the Treasury officials as to the feasibility of differentiating in favour of the petrol used by medical men. There were difficulties to overcome in connexion with the matter, but the deputation might take it from him that he would make the alteration asked for—viz., that the rebate which was allowed under the Finance Bill on the petrol used by commercial vehicles would be extended to the petrol used in the motor-cars of medical men.

The deputation, after thanking Mr. LLOYD GEORGE for the concession which he had made, withdrew.

### *Army Medical Services.*

General Sir JOHN FRENCH in his report for the year 1908 as Inspector-General of the Forces, which has been issued in a Parliamentary paper, devotes attention to the Army Medical Services. He states that during the drill season a large number of medical units belonging to the Royal Army Medical Corps, regular and territorial, were seen in camp. It is mentioned that the training undergone was of value to the officers, non-commissioned officers, and men engaged, and the benefit of a period

of camp life is particularly noticeable in the case of a corps like the Royal Army Medical Corps, whose ordinary duties in garrison consist so largely of indoor work. Some suggestions and criticism applicable to training in camp follow. "If the most is to be made of the time in camp," the report continues, "it is necessary that as much preliminary work in first aid, &c., should be done before the training as a field unit begins. At small stations there are difficulties in the way of adequate preliminary instruction, but at very few it is impossible to afford the non-commissioned officers and men of the corps sound instruction in first aid, including the carriage of wounded men. If this preliminary instruction is sufficiently thorough, a very short period should suffice for corps drills and exercises when the unit gets together in camp, and so permit a definite scheme of progressive work to be entered upon. This might begin, on the part of the officers, with a study of the organisation and rôle of the unit, and such portions of 'combined training' as are applicable to their branch of the service, while the non-commissioned officers and men might be exercised in the packing and loading of the technical equipment, the pitching and striking of camp, field sanitation, &c. The next stage might include for the officers the study of ground, map reading, estimation of distances with reference to the ordinary danger zones for rifle and shell fire, and the selection of suitable sites for dressing stations and camps, while for the non-commissioned officers and men the application of first aid to wounded men in the field might be combined with work likely to develop their intelligence, such as the differentiation of cases requiring hand-carriage from those suitable for rougher methods of transport. Later the unit might be exercised as such with reference to defined tactical formations and situations, and at this stage the active assistance and coöperation of the staff is most desirable."

Sir JOHN FRENCH also makes some observations on tactical practices staff rides, and field sanitation.

*Defective Colour Vision in the Mercantile Marine.*

A suggestion has been made that a Parliamentary Committee should be appointed to consider the efficiency of the sight tests imposed by the Board of Trade on candidates for certificates as masters and mates in the Mercantile Marine. However, Lord HAMILTON of DALZELL, speaking for the department in the House of Lords, has announced that it does not consider that a case for such an inquiry has been made out.

*Central Midwives Board.*

The report on the work of the Central Midwives Board for the year ending March 31st, 1909, has been issued as a Parliamentary paper. It is stated that during the year the Midwives Roll has increased by 1647 names, the total on March 31st, 1909, standing at 27,281. Of these, 5934 have passed the Board's examination. The total number of candidates during the year was 2350, and of these 1898 passed, the percentage of failure being 19·2. For the whole number of 21 examinations held down to March 31st, 1909, the number of candidates is 7488 and the percentage of failure 20·6. Of the 1898 who passed in the year under review 1100, or 58 per cent., declared their intention of practising as midwives. The report goes on to state that the Board has uniformly declined to move in the direction of lowering the standard of the examination, which in its view is only just sufficient to secure the rejection of women likely to be dangerous to the lives of women in childbirth Another point of interest touched upon in the report has relation to cancer. The attention of the Board having been drawn to the desirability of midwives possessing some knowledge of the early symptoms of cancer of the uterus, the chairman drafted a leaflet setting out in simple language the premonitory symptoms of the disease, and the urgent necessity of seeking medical advice at the earliest stage possible. Upwards of 24,000 of these leaflets have been circulated to local supervising authorities, nursing associations, training schools, recognised teachers, and midwives having the supervision of pupils. A copy is sent with the certificate granted to each successful candidate after an examination. The question of the payment of the fees of medical practitioners summoned on the advice of a midwife continues to occupy the attention of the Board. The illness of Lord Tweedmouth, then Lord President, caused the abandonment of a proposed deputation of the Board to the Privy Council on the subject, and since then action has been deferred pending the report of the Midwives Act Committee.

*Bristol University Bill.*

Bristol University Bill has passed through all its stages in the House of Commons, and has been read a third time.

*West African Medical Staff.*

The report of the Departmental Committee on the West African Medical Staff has been laid on the table of the House of Commons.

*Sanitary Matters in West Africa.*

An exhaustive report by Professor W. J. SIMPSON on sanitary matters in various West African colonies and the outbreak of plague in the Gold Coast has been submitted to Parliament.

## HOUSE OF COMMONS.

THURSDAY, JULY 1ST.

*A Consignment of Pork from China.*

Mr. THOMAS O'DONNELL asked the Secretary of State for Foreign Affairs whether frozen pigs were shipped from Chinese ports for consumption in this country; if so, what quantity had been landed during the past 12 months; whether there had been any inspection either in Chinese ports or at the landing ports in this country to safeguard the future consumers of this meat; and whether full inquiries would be made in China regarding the feeding, killing, curing, and packing of these pigs before they were allowed to be landed in this country.—Mr. JOHN BURNS replied: My right honourable friend the Secretary of State for Foreign Affairs has asked me to reply to this question. No frozen carcasses of pigs from Chinese ports have been imported into this country during the last 12 months. A packing-house and freezing establishment has, however, lately been constructed at Hankow, and a consignment from it of frozen pig carcasses is expected to arrive here about the end of the present month. I have caused inquiry to be made into the matter and have obtained information from the importing firm as to the feeding, killing, curing, and packing of the pigs. On arriving in this country the consignment will become subject to the Public Health (Foreign Meat) Regulations which I issued last year, and I have caused communication to be made to the medical officer of health of the port at which the consignment is expected to arrive, with a view to securing that a strict examination is made of the carcasses in question.

Mr. O'SHAUGHNESSY asked whether the right honourable gentleman was satisfied with this state of affairs.

Mr. BURNS: No carcasses of pigs have yet arrived, and we have anticipated their arrival by taking precautions. When such a consignment does arrive it will be inspected rigorously. My medical officers have directions to make a thorough examination of it.

Mr. KILBRIDE: Is the firm concerned in this matter English or American?

Mr. BURNS: I do not know and I do not care. Firms must all toe the line so far as inspection is concerned.

*Sanitary Work in Bombay.*

Mr. RAMSAY MACDONALD asked the Under Secretary of State for India whether it was now known at the India Office who had been appointed to carry on Captain A. G. McKendrick's sanitary work at Bombay, and what were the qualifications of the new officer.—The MASTER OF ELIBANK (the new Under Secretary) replied: The Government of Bombay has appointed Dr. Charles Albert Bentley to the post vacated by Captain McKendrick. Dr. Bentley is an M.B. of Edinburgh University, and holds the Cambridge diplomas of public health and of tropical medicine. He has had experience in malarial diseases as medical officer on the estates of an important tea company, and has been engaged in research work of a bacteriological kind, the results of which have been published in the *British Medical Journal*.

*Revaccination in the Post Office.*

Sir JOHN BATTY TUKE asked the Postmaster-General with reference to his recently issued regulation permitting future candidates for Post-office employment to be exempt from revaccination on making a statutory declaration that they conscientiously believed that revaccination would be prejudicial to their health, whether he was aware that evidence was given before the Royal Commission on Vaccination that many Post-Office employees became subject to the risk of infection from small-pox in a degree exceeding that of the general population, and that the Commission's report emphasised the fact that amongst Post-Office employees there had not been a single death from small-pox beween 1870 and 1880, which period included the small-pox epidemic in London of 1870–72, and only ten slight cases of the disease; whether before taking this step he had availed himself of the opinions of his medical officers throughout the country, who were responsible to him for the maintenance of the health of his staff; if so, did this new regulation accord with the opinion of his medical officers throughout the country; was he aware that in other branches of Government service, such as the Army and Navy, revaccination was rigorously insisted upon; what was his reason for permitting Post-Office servants to be exempt from similar regulations, seeing their acknowledged greater risk of infection; and did he intend to continue to insist upon primary vaccination in all candidates for employment in the Post Office in the future.—Mr. BUXTON wrote in reply: I am acquainted with the evidence given before the Royal Commission on Vaccination and with the references to the Post Office in its report. The House of Commons has laid down that a conscientious objection to vaccination is to be recognised as absolving the objector from penalties because of non-vaccination, and I have, therefore, in common with the Local Government Board and the Board of Education, felt it incumbent on me to relax the rules in regard to revaccination in accordance with the spirit of the general law on the subject. Primary vaccination is insisted on by the Civil Service Commissioners in respect of all candidates for established appointments throughout the Civil Service. There would be considerable practical inconvenience in applying a different rule in the case of unestablished appointments.

MONDAY, JULY 5th.

*Examinations for Meat Inspectors.*

Sir WILLIAM COLLINS asked the President of the Local Government Board whether the Joint Board set up to grant certificates under the Public Health (London) Act for sanitary inspectors and inspectors of nuisances was about to institute examinations for meat inspectors; and whether the institution of such examinations fell within the powers conferred by memorandum on the Joint Board.—Mr. BURNS wrote in reply: I am informed that the Joint Board are about to institute examinations for sanitary inspectors specially to qualify them to discharge the duties of meat inspectors. I understand that these examinations are of the nature of examinations for honours, and that the Joint Board consider that the institution of them falls within the powers conferred by the Memorandum of Association under which they are constituted.

*Experiments on Living Animals.*

Mr. GEORGE GREENWOOD asked the Secretary of State for the Home Department whether particulars of the various experiments referred to as irregularities in the report of the inspector of experiments on living animals in the return for 1908 appeared in Table IV. or in any other table in such return; and whether an inspector was present at any, and if so which, of such experiments, or whether the answers given by him with regard to such experiments were based solely upon the reports furnished by the licensees themselves.—Mr. GLADSTONE (by written answer) replied: The experiments in question are entered in the table under the heading that would have covered them if the proper

certificates had been obtained by the licensee. The inspector was not present when the irregularities occurred, but he subsequently saw some of the animals. The irregularities were discovered from examination of the reports made by the licensees.

TUESDAY, JULY 6TH.

*The Medical Attendance at an Ayrshire Colliery.*

Mr. KEIR HARDIE asked the Secretary of State for the Home Department whether he was aware that the New Cumnock Collieries Company, Limited, Ayrshire, Scotland, had intimated by notice to their workpeople that the deductions from their wages for medical service would be paid over to a certain practitioner who was a relative of the managing director; that a memorial signed by 300 workpeople objecting to this and directing the medical deductions to be handed over to the two medical men hitherto acting for the workpeople had been sent to the firm, who had ignored the request; that pressure was being brought to bear upon the workmen, and threats of dismissal used to compel them to agree to recognise the medical nominee of the company and to desert the doctors of their own choice; and whether he proposed taking action to enforce those provisions of the Truck Act which were thus being violated.—Mr. GLADSTONE answered: I have received a report with regard to this matter, from which it appears that the facts are generally as stated in the first two paragraphs of the question. The company took over the mine in question last March, and an agreement was entered into at the time between them and the men employed at the mine in pursuance of Section 23 of the Truck Act, 1831, for deductions to be made in respect of the provision of medical attendance by the company. The company contend that the memorial referred to in the question protesting against the new arrangement and requesting that the deductions be paid to the same doctors as before has not terminated the agreement, and if this is so no infringement of the Truck Act is being committed. The company state, however, that they are not making deductions from the wages of those who have personally signified to them their objections to the deductions, but they decline to collect deductions for the former doctors. The matter appears to be one for settlement between the company and the men.

Mr. KEIR HARDIE: May I ask the right honourable gentleman whether he is aware that the men do not complain of the deductions being made? They do object to the deductions going to a man whom they do not want to pay. Is that not an infringement of the principle of the Truck Act?—Mr. GLADSTONE: The point is not a new one. It has arisen in many parts of the country. It is a matter of difficulty.

Mr. KEIR HARDIE: Would not the Home Office instruct the mines inspector to enter a prosecution?—Mr. GLADSTONE: It does not seem clear that there has been an infringement of the Act.

*Stornoway Infectious Diseases Hospital.*

Mr. WEIR asked the Lord Advocate, in view of the fact that the medical officer for Ross and Cromarty in his last report stated that the Stornoway infectious diseases hospital was in urgent need of a water-supply, would he state what action had been taken by the local authority in the matter, and when a suitable supply was likely to be available.—Mr. URE replied: While the water-supply of this hospital might be improved, my honourable friend must not infer that the local authority has not taken such action as is open to it, or that the hospital is without a fairly satisfactory supply. The local authority does all it possibly can to give a copious supply. The patients have never suffered from the want of water, and the hospital has a very good record to show in the number of recoveries of the patients treated. There have been no residents in the hospital since May 21st last except the nurse and her assistant.

*The Poisons and Pharmacy Act, 1908.*

Captain CRAIG asked the Secretary of State for the Home Department whether the Pharmaceutical Society had yet framed by-laws for the registration of army compounders and certified dispensers under Section 4 (b) of the Poisons and Pharmacy Act of 1908; whether he was aware of the effect upon army compounders and certified dispensers who had for many years held good appointments, and yet who, until registered, were liable to a penalty of £5 if they dispensed a prescription containing even an infinitesimal quantity of poison, although qualified to do so; and what steps he proposed to take to hasten the Pharmaceutical Society in drafting the necessary by-laws.—Mr. GLADSTONE furnished the following written reply: I am informed that a committee of the Council of the Pharmaceutical Society is now engaged in the consideration of the question of these by-laws, but that some time must necessarily elapse before they can be formulated. The matter will not be lost sight of. I would point out that a certified assistant who dispenses a prescription containing poison is not liable to a penalty of £5. The penalty is incurred only when unregistered persons sell poison or keep open shop for the sale of poison.

## BOOKS, ETC., RECEIVED.

LIVINGSTONE, E. AND S., Edinburgh.

Medical Fellowship, D.P.H., and Dental Examination Papers for Several Years, for the Degrees of the University of Edinburgh and the Diplomas of the Royal College of Surgeons, Royal College of Physicians, Edinburgh, and Faculty of Physicians and Surgeons, Glasgow. Price 1s. 6d. net.

MOSBY (C. V.) COMPANY, St. Louis, Missouri, U.S.A.

Vaccine and Serum Therapy. Including also a Study of Infections, Theories of Immunity, Opsonins and the Opsonic Index. By Edwin Henry Schorer, B.S., M.D. Price $2.00.

Handbook of Diseases of the Rectum. By Louis J. Hirschman, M.D. Price $4.00.

MURRAY, JOHN, London.

Recent Progress in the Study of Variation, Heredity, and Evolution. By Robert Heath Lock, M.A. Price 5s. net.

Children in Health and Disease. A Study of Child-Life. By David Forsyth, M.D., D.Sc. Price 10s. 6d. net.

H[illegible]BMAN, LIMITED, London.

Clinical Commentaries deduced from the Morphology of the Human Body. By Professor Achille De-Giovanni. Translated from the Second Italian Edition. By John Joseph Eyre, M.R.C.P., L.R.C.S.I., D.P.H. Cambridge. Price 15s. net.

Progressive Medicine. Edited by Hobart Amory Hare, M.D., Assisted by H. R. M. Landis, M.D. Volume I. March, 1909. Price, £2 net, annual subscription (4 vols.). Single volumes 12s. net each.

# Appointments.

*Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

BAINBRIDGE, F. A., M.D. Cantab., M.R.C.P. Lond., has been appointed Demonstrator of Pharmacology at St. Bartholomew's Hospital.

BALL, W. G., F.R.C.S. Eng., L.R.C.P. Lond., has been appointed Junior Demonstrator of Pathology at St. Bartholomew's Hospital.

BARRIS, J. D., M.R.C.S., L.R.C.P. Lond., has been appointed Demonstrator of Midwifery at St. Bartholomew's Hospital.

DAVIES, H. MORRISTON, M.C. Cantab., F.R.C.S. Eng., has been appointed Assistant Surgeon to University College Hospital.

ETHERINGTON-SMITH, R. B., M.B., B.C. Cantab., has been appointed Demonstrator of Anatomy at St. Bartholomew's Hospital.

FISHER, J. B., M.D., C.M. Edin., D.P.H., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Whitehaven District of the county of Cumberland.

GASK, G. E., F.R.C.S. Eng., L.R.C.P. Lond., has been appointed Demonstrator of Operative Surgery at St. Bartholomew's Hospital.

HOWELL, C. M. H., M.B., B Ch. Oxon., has been appointed Demonstrator of Physiology at St. Bartholomew's Hospital.

LEECH, F. S., M.R.C.S., L.R.C.P. Lond., L.S.A., has been appointed a Member of the Honorary Medical Staff of the Gateshead Dispensary.

MOORE, R. FOSTER, F.R.C.S. Eng., B.C. Cantab., has been appointed Demonstrator of Anatomy at St. Bartholomew's Hospital.

PRITCHARD, HAROLD, M.D., B.S. Lond., has been appointed Junior Demonstrator of Pathology at St. Bartholomew's Hospital.

TATHAM, C. J. W., M.R.C.S., L.S.A., D.P.H., has been appointed Assistant Medical Officer of Health of Scarborough and Medical Officer of Schools.

WEAVER, A. E., M.D., Ch.B., D.P.H. Birm., has been appointed Medical Officer of Health of Abertillery.

WILSON, H. W., F.R.C.S. Eng., M.B., B.S. Lond., has been appointed Demonstrator of Anatomy at St. Bartholomew's Hospital.

# Vacancies.

*For further information regarding each vacancy reference should be made to the advertisement (see Index).*

AYR COUNTY HOSPITAL.—Resident House Surgeon. Salary £70 per annum, with board and residence.

BELGRAVE HOSPITAL FOR CHILDREN, Clapham-road, S.W.—House Surgeon for six months. Salary at rate of £20 per annum, with board and residence.

BIRMINGHAM, CITY OF, EDUCATION COMMITTEE.—Medical Officer. Salary £250 per annum.

BIRMINGHAM GENERAL DISPENSARY.—Resident Surgeon, unmarried. Salary £200 per annum.

BIRMINGHAM INFIRMARY.—Two Assistant Resident Medical Officers. Salary £104 per annum, with apartments, rations, &c.

BIRMINGHAM, QUEEN'S HOSPITAL.—House Surgeon for five months. Salary at rate of £50 per annum, with board, lodging, and washing.

BLACKBURN AND EAST LANCASHIRE INFIRMARY.—Junior House Surgeon. Salary £80 per annum, with board, washing, &c.

BRIDGWATER HOSPITAL.—House Surgeon, unmarried. Salary at rate of £80 per annum, with board, lodging, and washing.

BRISTOL ROYAL INFIRMARY.—Honorary Surgeon.

CAMBRIDGE, ADDENBROOKE'S HOSPITAL.—House Surgeon. Salary £80 per annum. with board, residence, and laundry.

CANCER HOSPITAL, Fulham-road, London, S.W.—Surgeon.

CANTERBURY, KENT AND CANTERBURY HOSPITAL.—Assistant House Surgeon, unmarried. Salary £60 per annum, with board and lodging.

CARDIFF INFIRMARY.—House Surgeon for six months. Salary £30, with board, residence, and laundry.

CHELTENHAM GENERAL HOSPITAL.—Surgeon-in-Charge of the Branch Dispensary, unmarried. Salary £80 per annum, with board and lodging. Also House Physician, unmarried. Salary £70 per annum, with board and lodging

CHESTERFIELD AND NORTH DERBYSHIRE HOSPITAL.—Junior House Surgeon. Salary £80 per annum, with board, apartments, and laundry.

DERBY, DERBYSHIRE ROYAL INFIRMARY.—Assistant House Surgeon. Salary at rate of £60 per annum, with board, residence, and washing.

DUMFRIES AND GALLOWAY ROYAL INFIRMARY.—Assistant House Surgeon. Salary £55 per annum, with board and lodging.

EXETER, ROYAL DEVON AND EXETER HOSPITAL.—Assistant House Surgeon, unmarried. Salary £60 per annum, with board, lodging, and washing.

GLASGOW DISTRICT MENTAL HOSPITAL, Lenzie.—Junior Assistant Medical Officer. Salary £125 per annum, with board, lodging, &c.

GORDON HOSPITAL FOR FISTULA, &c., Vauxhall Bridge-road, S.W.—Resident House Surgeon.

GOVAN PARISH SCHOOL BOARD.—Principal Medical Officer. Salary £500 per annum.

GROSVENOR HOSPITAL FOR WOMEN.—Honorary Registrar.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton.—Resident House Physicians for six months. Salary £25.

LEEDS, HOSPITAL FOR WOMEN AND CHILDREN.—Honorary Surgeon (Gynæcological and Obstetrical).

LONDON HOSPITAL, E.—Medical Officer in charge of the X Ray Department.

MACCLESFIELD GENERAL INFIRMARY.—Junior House Surgeon. Salary £60 per annum, with board and residence.

MOUNT VERNON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Hampstead and Northwood, Middlesex.—Junior Resident Medical Officer, also Assistant Resident Medical Officer. Salary in each case £50 per annum, with board and residence. Also Clinical Assistants in the Out-patient Department.

NATIONAL HOSPITAL FOR THE RELIEF AND CURE OF THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury.—Surgeon for Diseases of the Ear and Throat.

NEWPORT AND MONMOUTHSHIRE HOSPITAL.—Third Resident Medical Officer. Salary £60 per annum, with board, residence, and laundry.

NOTTINGHAM CHILDREN'S HOSPITAL.—House Surgeon (female) for six months. Salary at rate of £100 per annum, with board, apartments, and washing.

NOTTINGHAM EDUCATION COMMITTEE.—Second Medical Officer (female). Salary £250 per annum.

PERTH ROYAL INFIRMARY.—House Surgeon. Salary £60 per annum, with board.

POPLAR HOSPITAL FOR ACCIDENTS, Poplar, E.—Assistant House Surgeon for six months. Salary at rate of £80 per annum, with board and residence.

QUEEN'S HOSPITAL FOR CHILDREN, Hackney-road, E.—House Surgeon, also House Physician, both for six months. Salary at rate of £80 per annum, with board, residence, and laundry.

ROYAL EAR HOSPITAL, Soho.—Non-resident House Surgeon for six months. Salary at rate of £40 per annum. Also Clinical Assistants.

RYDE, ROYAL ISLE OF WIGHT COUNTY HOSPITAL.—Resident Junior House Surgeon. Salary £50 per annum.

SHEFFIELD ROYAL HOSPITAL.—Assistant House Physician, unmarried. Salary £50 per annum, with board, lodging, and washing.

SOMERSET ADMINISTRATIVE COUNTY.—Medical Officer of Health. Salary £700 per annum.

TYNEMOUTH VICTORIA JUBILEE INFIRMARY, Spring Gardens, North Shields.—House Surgeon. Salary £100 per annum, with rooms, board, &c.

WADSLEY, NEAR SHEFFIELD, WEST RIDING ASYLUM.—Fifth Assistant Medical Officer. Salary £140 per annum, with board, &c.

WALLINGFORD, BERKS COUNTY ASYLUM.—Second Assistant Medical Officer, unmarried. Salary £150 per annum, with board, apartments, attendance, &c.

WALSALL AND DISTRICT HOSPITAL.—Junior House Surgeon. Salary £80 per annum, with board, residence, &c.

WEST BROMWICH DISTRICT HOSPITAL.—Resident Assistant House Surgeon, unmarried. Salary £75 per annum, with board, residence, and washing.

WESTMORLAND CONSUMPTION SANATORIUM.—Resident Medical Superintendent, unmarried. Salary £300 per annum, with board and residence.

WHITEHAVEN AND WEST CUMBERLAND INFIRMARY.—Resident House Surgeon. Salary £120 per annum, with board and lodging.

WOLVERHAMPTON AND MIDLAND COUNTIES EYE INFIRMARY.—House Surgeon. Salary £80 per annum, with apartments, board, and laundry.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—House Surgeon. Salary at rate of £80 per annum, with board, lodging, and laundry.

WOLVERHAMPTON UNION, WORKHOUSE, &C.—Assistant Medical Officer. Salary £140 per annum, with apartments, rations, and washing.

WORCESTER COUNTY AND CITY ASYLUM, Powick.—Third Assistant Medical Officer. Salary £140 per annum, all found.

THE Chief Inspector of Factories, Home Office, S.W., gives notice of vacancies as Certifying Surgeons under the Factory and Workshop Act at Wallingford, in the county of Berks; and at Horsmonden, in the county of Kent.

# Births, Marriages, and Deaths.

## BIRTHS.

COOPER.—On June 29th, at Eccleston-street, Eaton-square, S.W., the wife of Austin Cooper, M.D., of a daughter.

EMBLETON.—On July 6th, at 8, Heath Mansions, Hampstead, N.W., to the wife of Dennis Embleton, B.A., M.R.C.S., L.R.C.P., a daughter.

SPOONER.—On July 2nd, at Coupar House, Blandford, Dorset, the wife of William Casswell Spooner, M.B., Ch.B. Edinburgh, M.R.C.S., L.R.C.P. London, &c., of a son.

STALLARD.—On June 26th, at 24, Burlington-road, Ipswich, Elinor Walters Stallard, M.D., B.S., wife of Oswald Stallard, of a son.

## MARRIAGES.

DALLY—CURTOIS.—On July 1st, at St. Philip's Church, Earl's Court, by the Bishop of London, assisted by the Rev. Huntley Curtois, M.A., and the Rev. Algernon Curtois, M.A., cousins of the bride, John Frederick Halls Dally, M.A., M.D. Cantab., M.R.C.P. Lond., of 105, Sloane-street, S.W., son of Dr. Frederick Dally, Belgrave House, Wolverhampton, to Norah Willoughby, youngest daughter of the late Rev. Peregrine Edward Curtois, Vicar of Hemingford Grey, and of Mrs. Curtois, Godmanchester, Hunts.

PHILLIPS—SINNOCK.—On July 1st, at the Congregational Church, Portishead, by the Rev. T. A. Carritt, Miles H. Phillips, B.S., F.R.C.S., of 420, Glossop-road, Sheffield, formerly of Bristol, to Edna, second daughter of F. W. Sinnock, J.P., of Avon View, Portishead.

## DEATHS.

CANTRELL.—On July 2nd, at Boscombe, Thomas Joseph Cantrell, M.D., of Hyde Park-square, W., in his 83rd year.

MARSH.—After long suffering, on July 6th, at 68, East Dulwich-grove, S.E., Walter Alfred Marsh, M.R.C.S., L.S.A., aged 62 years.

*N.B.—A fee of 5s. is charged for the Insertion of Notices of Births, Marriages, and Deaths.*

# Notes, Short Comments, and Answers to Correspondents.

## A FLOATING "CHAMBER OF HORRORS."

THIS is neither more nor less than the *Carcharodon Carcharias* of Linnæus, the common shark of the high seas, whose voracity and "accommodation" for whatever it devours would be almost incredible were it not attested and put on record by such authoritative observers as Dr. Condorelli and Dr. Perrando, two distinguished professors in the medical faculty of the University of Catania. It will be remembered that on Dec. 28th last the Siculo-Calabrian cataclysm was immediately followed, if not actually accompanied, by an upheaval of the Messinese Straits, like that

"Cumulo praeruptus aquae mons,"

which whirled aloft the ships of Æneas in the same waters as sung by Virgil, and that, after flooding the beach, it swept out with its backwash to sea not a few of the citizens of Messina who happened to be in the neighbourhood at that early hour. Of these unfortunates the bodies were never found until about a month afterwards, on Jan. 26th, seven Catanian fishermen, cruising off Cape Santa Croce, netted a medium-sized dolphin and had already dragged it over the boat's gunwale when an enormous shark, rising breast-high out of the water, snapped up their prey in a twinkling and disappeared. After a moment's panic the men went for the sea-robber, and not without difficulty harpooned him and brought him in tow to Catania. Unfortunately they began to dissect him, not, it may be said, by the scientific method desirable in the case of such an uncommon specimen of his kind, but had scarcely opened his stomach when the spectacle before them made them desist in horror. A number of human limbs, with those of a dog and a cow, lay scattered in the monster's interior! Notice was immediately given to the sanitary authorities, and these, under the direction of Professor Condorelli and Professor Perrando, had the remains—those of a man, a woman, and a child—removed to the mortuary chamber. Exposed for purposes of recognition, no one among the many relays of Messinese citizens could identify them; but the two medical experts, after minute and prolonged examination, succeeded in satisfying themselves that the man was about the age of 50 years, his hobnailed shoes and coarse stockings indicating a humble rank; that the woman, of younger age, was of the same condition (to judge from fragments of her dress), while the child might be between five and six years. Had these poor victims been seized and swallowed alive? or were they already dead when the shark devoured them? Professor Perrando and Professor Condorelli in the elaborate report which they have presented to the Italian Zoological Society* have come to the conclusion that the earthquake of Dec. 28th having occurred in the early morning when the inhabitants of Messina were, most of them, asleep, and therefore undressed, the corpses found in the shark must have been of those who were either abroad at the time or who living near the shore had at the instant of the shock got out of bed and into their clothes in hot haste and rushing into the open had been swept up and out to sea by the retiring wave. The viscera—steeped as they were in sea-water—gave no sign of the ordinary putrefactive processes (the liver, the spleen, and the intestines were in a marvellous state of preservation), and the inference, horrible though it be, seems irresistible that they were swallowed alive! The report proceeds to describe the size and proportions of the monster—rare indeed, but not unknown in Mediterranean waters. The Museum at Catania and other seats of learning in the Two Sicilies contain specimens of it—some of them having been taken after the battle of Aboukir, when a shoal of sharks was seen hovering about during the action. Others, it is said, were sighted in the Levant when, 11 or 12 years ago, the *Victoria* went down with Admiral Tryon and all hands. Interesting as the above details are to the nature student, they have also been noted with satisfaction by the theologian, who, whatever other difficulties may beset the narrative of Jonah and the sea-monster (presumably a shark rather than a whale), can appeal to the report of Professor Condorelli and Professor Perrando as proving that capacity to swallow and "accommodate" a human being is not one of them!

* "Notizie sul *Carcharodon Carcharias L.* catturata nelle Acque di Augusta, e Considerazioni su Resti Umani trovati nel suo Tubo-digerente," "Notices on the Carcharodon Carcharias of Linnæus captured in the Waters of Augusta and Considerations on the Human Remains found in its Digestive Cavity."

## THE HOSPITAL GAZETTES.

THE *Guy's Hospital Gazette* (June 26th) contains, in the form of a supplement, an excellent photogravure portrait of the late Dr. Peter Horrocks, obstetric physician to the hospital. This portrait has been reproduced from the last photograph taken of its subject, and is a characteristic likeness.—The *London Hospital Gazette* (June) devotes its clinical supplement to Osteo-Arthritis, upon which subject Dr. C. H. Miller contributes a useful article. The London Hospital Clubs' Union publishes the report of its honorary financial secretary for 12 months ending with last March, which shows that the Union is

able to produce a credit balance of nearly £380.—In the *Middlesex Hospital Journal* (June) W. D. H. and S. H. write on the Amateur Marathon Race of last May from a medical point of view. They examined the 67 starters before and after the race and found most of them rather under-sized in appearance and showing the physical signs of hypertrophied right hearts. They were surprised at the freedom from dyspnœa which most of the finishers presented and from the second examination of their hearts are inclined to attribute the runner's "second wind" to a temporary regurgitation at the tricuspid orifice, a theory not easy to accept. To the same number Mr. A. T. Ritts contributes a curious account of the great Bishop Berkeley's advocacy of tar water, a panacea now fallen into as much neglect as has brimstone and treacle for a family medicine in the springtime. The philosopher went so far as to publish a book entitled, "Siris: a Chain of Philosophical Reflections and Enquiries concerning the Virtue of Tar Water."—*St. Bartholomew's Hospital Journal* (June) commemorates the opening of the new Pathological Buildings with a fully illustrated description of their arrangements and opening ceremony.—*St. George's Hospital Gazette* (June) contains one of a series of articles by Mr. H. G. Drake-Brockman in which he deals with the production of trichromatic prints.—An editorial note in *St. Mary's Hospital Gazette* (June) records the fact that at the last examination for the final F.R.C.S. the five candidates from St. Mary's all passed, and each of these gentlemen contributes a paper in this number. The chief of these is by Dr. A. Fleming, whose "Acute Bacterial Infections" is part of an essay which won the Cheadle gold medal.—An anonymous contributor in *St. Thomas's Hospital Gazette* (June) has levied toll upon a delightful catechism of physiology "for the youth of both sexes," entitled "Know Thyself." It is by a certain Mrs. Taylor, and from the quotations which he gives we imagine it to be an early Victorian production. It is compiled on the principle of the "Child's Guide to Knowledge." We quote two of the questions and answers. Q. "Why are the bones of man not on the outside of his body?" A. "If he were covered with bone, like an oyster, he would have little feeling or knowledge." Q. "Why have we but two eyes?" A. "Because more are unnecessary."—The *Union Magazine* (University College, London), as usual, grants only a very sm all proportion of its pages to the Medical Faculty. Would it not be practicable for University College Hospital to publish a Gazette of its own? We are convinced of the value of these journals in the corporate life of our medical schools.—The *Broad Way* (*Westminster Hospital Gazette*, June) contains some sprightly verse and a smart prose satire on theorists.

## THE WOMEN'S HOLIDAY FUND.

AT this season of the year appeals for funds devoted to sending poor people for country holidays are prominently before the charitable public, and those who annually enjoy a release from work by sea or countryside can hardly fail to regard sympathetically such an appeal from a properly administered society. The latest plea which we have received is from the Women's Holiday Fund, and is signed by the Bishops of London and Stepney and others, who write:—

> Unless the generous support extended to us in past years is speedily forthcoming, it will be necessary to cut short our work very considerably. This is a grievous prospect. Will those who realise what rest and fresh air can do for the tired mind and body help us to send these poor women workers of London where, for at least a few days, they may breathe fresh air and look on fields and sea away from the dull grey monotony of their daily life? The applicants pay as much towards their expenses as their means allow, but can never meet the full cost of their holiday. Any subscriptions or donations will be thankfully acknowledged by the treasurer, A. S. Daniell, Esq., Fairchildes, Warlingham, Surrey, or by the Secretary, Miss Ivimy, 76, Denison House, 296, Vauxhall Bridge-road, S.W.

We commend the appeal upon grounds not only of charity but of public health. Such an outing as the Fund can give cannot fail to be of hygienic service to the unborn child as well as to the toil-worn mother or to the undeveloped girl.

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*Antitoxin.*—Although the use of antitoxin has been recommended in the treatment of post-diphtheritic paralysis by some authorities, notably by Comby, it has been found to fail in the paralysis produced in animals by the diphtheria toxin. Since the patient has already been treated with antitoxin in the course of the disease it would probably be inadvisable to give further doses now in view of the possible occurrence of anaphylaxis or serum disease. Dr. J. D. Rolleston strongly recommends the oral administration of adrenalin in cases of post-diphtheritic paralysis with any indications of cardiac implication, and the treatment has been adopted by other observers.

*Julius.*—The local medical society might well be consulted. If our correspondent were reinforced by the opinion of his colleagues in the district his position would be much stronger.

*An Anxious Enquirer* (Jan. 11th).—A similar case has been brought to our notice, the details of which might be of service.

*R. T.*—We have always taken the contrary view.

**COMMUNICATIONS not noticed in our present issue will receive attention in our next.**

# Medical Diary for the ensuing Week.

## SOCIETIES.

**ROYAL SOCIETY OF MEDICINE, 20, Hanover-square, W.**

TUESDAY.

SURGICAL SECTION (Hon. Secretaries—Herbert F. Waterhouse, Walter G. Spencer): at 5 P.M.

*Special Meeting:*

Address by Dr. W. B. Coley (Surgeon to the General Memorial Hospital, New York): The Treatment of Sarcoma by Bacterial Toxins.

***N.B.—Fellows of the Society are entitled to attend and to speak at all Meetings.***

**SOCIETY OF TROPICAL MEDICINE AND HYGIENE, 11, Chandos-street, Cavendish-square, W.**

FRIDAY.—8.30 P.M., Dr. J. P. Maxwell (Amoy): (1) A Case of Amœbic Abscess of the Spleen; (2) A Case of Black-water Fever.—Dr. P. G. Woolley: Preventable Diseases in Siam.—Lieut.-Colonel J. R. Forrest, R.A.M.C.: Fevers in Rangoon.

## LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

**MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, W.C.**

MONDAY.—4 P.M., Dr. J. M. H. MacLeod: Clinique (Skin). 5.15 P.M., Lecture:—Mr. J. Cantlie: Tropical Diseases met with in England.

TUESDAY.—4 P.M., Dr. E. Cautley: Clinique (Medical). 5.15 P.M., Lecture:—Dr. N. Pitt: Cerebral Syphilis.

WEDNESDAY.—4 P.M., Mr. A. H. Tubby: Clinique (Surgical). 5.15 P.M. Lecture:—Mr. A. Lane: The Surgical Treatment of Constipation.

THURSDAY.—4 P.M., Sir Jonathan Hutchinson: Clinique (Surgical). 5.15 P.M., Lecture:—Dr. J. Collier: Disseminate Sclerosis (illustrated by cases).

FRIDAY.—4 P.M., Mr. G. S. Hett: Clinique (Ear, Nose, and Throat).

**POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.**

MONDAY.—10 A.M., Lecture:—Surgical Registrar: Demonstration of Cases in Wards. 12 noon, Pathological Demonstration:—Dr. Bernstein. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Dunn: Diseases of the Eyes. 2.30 P.M., Operations. 5 P.M., Lecture:—Mr. Bidwell: Practical Surgery.

TUESDAY.—10 A.M., Dr. Moullin: Gynæcological Operations. 12.15 P.M., Lecture:—Dr. Pritchard: Practical Medicine. 2 P.M., Medical and Surgical Clinics. X Rays. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Operations. Dr. Abraham: Diseases of the Skin. 5 P.M., Lecture:—Mr. Bidwell: Operations for Gastric and Duodenal Hæmorrhage.

WEDNESDAY.—10 A.M., Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Saunders: Diseases of Children. 12.15 P.M., Lecture:—Dr. G. Stewart: Practical Medicine. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Harman: Diseases of the Eyes. 2.30 P.M., Operations. Dr. Robinson: Diseases of Women. 5 P.M., Lecture:—Mr. Ll. Williams: Extraction of Teeth—When and How.

THURSDAY.—10 A.M., Lecture:—Surgical Registrar: Demonstration of Cases in Wards. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Dunn: Diseases of the Eyes. 2.30 P.M., Operations. 5 P.M., Lecture:—Mr. Keetley: Clinical.

FRIDAY.—10 A.M., Dr. Moullin: Gynæcological Operations. Lecture:—Medical Registrar: Demonstration of Cases in Wards. 2 P.M., Medical and Surgical Clinics. X Rays. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Operations. Dr. Abraham: Diseases of the Skin. 5 P.M., Lecture:—Mr. Armour: Clinical.

SATURDAY.—10 A.M., Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Saunders: Diseases of Children. Mr. Harman: Diseases of the Eyes. 12.15 P.M., Lecture:—Dr. G. Stewart: Practical Medicine. 2 P.M., Medical and Surgical Clinics. X Rays. 2.30 P.M., Operations. Dr. Robinson: Diseases of Women.

**LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich.**

MONDAY.—2 P.M., Operations. 2.15 P.M., Sir Dyce Duckworth: Medicine. 3.15 P.M., Mr. Turner: Surgery. 4 P.M., Mr. R. Lake: Ear and Throat. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Ear and Throat. 2.15 P.M., Special Lecture:—Sir Dyce Duckworth: Gouty Phlebitis.

TUESDAY.—2 P.M., Operations. 2.15 P.M., Dr. R. Wells: Medicine. 3.15 P.M., Mr. Carless: Surgery. 4 P.M., Sir M. Morris: Diseases of the Skin. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin.

WEDNESDAY.—2 P.M., Operations. 2.15 P.M., Dr. F. Taylor: Medicine. 3.30 P.M., Mr. Cargill: Ophthalmology. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 11 A.M., Eye.

THURSDAY.—2 P.M., Operations. 2.15 P.M., Dr. G. Rankin: Medicine. 3.15 P.M., Sir W. Bennett: Surgery. 4 P.M., Dr. Sale-Barker: Radiography. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Ear and Throat. 3.15 P.M., Sir W. Bennett: Some Surgical Aspects of Thrombosis.

FRIDAY.—2 P.M., Operations. 2.15 P.M., Dr. R. Bradford: Medicine. 3.15 P.M., Mr. McGavin: Surgery. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin.

SATURDAY.—2 P.M., Operations. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 11 A.M., Eye.

**WEST-END HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM, 73, Welbeck-street, W.**

MONDAY.—3 P.M., Clinical Demonstration: Dr. H. Campbell.

TUESDAY.—5 P.M., Clinical Demonstration: Dr. J. Mackenzie.

WEDNESDAY.—3 P.M., Clinical Demonstration: Dr. F. Palmer.

THURSDAY.—3 P.M., Clinical Demonstration: Dr. T. D. Savill.

FRIDAY.—2 P.M., Clinical Demonstration: Dr. P. Stewart. 5.30 P.M., Clinical Demonstration: Dr. H. Macnamara.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury, W.C.
TUESDAY.—3.30 P.M., Clinical Lecture:—Dr. G. Holmes: Familial Ataxia, Anomalous Cases.

CENTRAL LONDON THROAT AND EAR HOSPITAL, Gray's Inn-road, W.C.
TUESDAY.—3.45 P.M., Lecture:—Dr. J. G. French: Tracheoscopy, &c.
FRIDAY.—3.45 P.M., Lecture:—Dr. W. Wingrave: Clinical Pathology.

## OPERATIONS.

### METROPOLITAN HOSPITALS.

**MONDAY (12th).**—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M.), St. Mark's (2.30 P.M.).

**TUESDAY (13th).**—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College 2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M., Ophthalmic, 2 P.M.), Tottenham (2.30 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

**WEDNESDAY (14th).**—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan 9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M., Dental, 2 P.M.), Tottenham (Ophthalmic, 2.30 P.M.), West London (2.30 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

**THURSDAY (15th).**—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Orthopædic (9 A.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M.), Tottenham (Gynæcological, 2.30 P.M.), West London (2.30 P.M.), Central London Throat and Ear (Minor, (9 A.M., Major, 2 P.M.).

**FRIDAY (16th).**—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.) Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), Tottenham (2.30 P.M.), St. Peter's (2 P.M.), Central London Throat and Ear (Minor 9 A.M., Major, 2 P.M.).

**SATURDAY (17th).**—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 A.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M.), West London (2.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

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IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITOR," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention should be given to this notice.

*It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.*

*Lectures, original articles, and reports should be written on one side of the paper only,* AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

*Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.*

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*Letters relating to the publication, sale and advertising departments of* THE LANCET *should be addressed "To the Manager."*

*We cannot undertake to return MSS. not used.*

## MANAGER'S NOTICES.

### THE INDEX TO THE LANCET.

The Index to Vol. I. of 1909, which was completed with the issue of June 26th, and the Title-page to the volume, were given in THE LANCET of July 3rd.

### VOLUMES AND CASES.

VOLUMES for the first half of the year 1909 will be ready shortly. Bound in cloth, gilt lettered, price 18*s.*, carriage extra.

Cases for binding the half year's numbers are now ready. Cloth, gilt lettered, price 2*s.*, by post 2*s.* 3*d.*

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## METEOROLOGICAL READINGS.

*(Taken daily at 8.30 a.m. by Steward's Instruments.)*

THE LANCET Office, July 8th, 1909.

| Date. | Barometer reduced to Sea Level and 32° F. | Direction of Wind. | Rainfall. | Solar Radio in Vacuo. | Maximum Temp. Shade. | Min. Temp. | Wet Bulb. | Dry Bulb. | Remarks. |
|---|---|---|---|---|---|---|---|---|---|
| July 2 | 30·25 | N. | ... | 115 | 71 | 48 | 51 | 54 | Fine |
| ,, 3 | 30·15 | S.W. | ... | 125 | 76 | 54 | 57 | 63 | Fine |
| ,, 4 | 30·01 | S.W. | 0·10 | 125 | 70 | 58 | 61 | 62 | Cloudy |
| ,, 5 | 30·08 | W. | ... | 106 | 70 | 55 | 58 | 62 | Cloudy |
| ,, 6 | 29·65 | W. | 0·06 | 116 | 66 | 56 | 56 | 61 | Cloudy |
| ,, 7 | 29·55 | N.W. | 0·29 | 117 | 67 | 54 | 53 | 56 | Raining |
| ,, 8 | 29·86 | N. | 0·27 | 120 | 68 | 54 | 55 | 60 | Cloudy |

## Communications, Letters, &c., have been received from—

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